



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**EVALUATION OF GRADUATE EDUCATION POLICY IN THE
U.S. NAVY**

by

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June 2012

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EVALUATION OF GRADUATE EDUCATION POLICY IN THE U.S. NAVY

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LIST OF ACRONYMS AND ABBREVIATIONS

ADSO	Active Duty Service Obligation
AFIT	Air Force Institute of Technology
APC	Academic Profile Code
ASLC	Academic Skills Learning Center
AVCNO	Assistant Vice Chief of Naval Operations
CIVINS	Civilian Institutions
CNO	Chief of Naval Operations
CO	Commanding Officer
DCNO	Deputy Chief of Naval Operations
DH	Department Head
DL	Distance Learning
DOD	Department of Defense
DODINST	Department of Defense Instruction
EMBA	Executive Master of Business Administration
ESR	Educational Skills Requirement
GEP	Graduate Education Program
GERG	Graduate Education Review Group
GESB	Graduate Education Selection Board
GET	Graduate Education & Teaching
GEV	Graduate Education Voucher
KSA	Knowledge, Skill, Ability
METOC	Meteorology and Oceanography
MGIB	Montgomery GI Bill

NETC	Naval Education and Training Command
NETPDTC	Naval Education and Training Professional Development and Technology Center Officer
NPC	Navy Personnel Command
NPDC	Naval Personnel Development Command
NPS	Naval Postgraduate School
OPNAV	Chief of Naval Operations
OPNAVINST	Officer of the Chief of Naval Operations Instruction
PACE	Program for Afloat College Education
PME	Professional Military Education
ROI	Return on Investment
RL	Restricted Line
SECNAV	Secretary of the Navy
SME	Subject Matter Expert
SSKs	Subspecialty Skills
SSP	Subspecialty
SWO	Surface Warfare Officer
TA	Tuition Assistance
URL	Unrestricted Line
VEAP	Veterans Educational Assistance Program
VOLED	Voluntary Education
WASC	Western Association of Schools and Colleges
XO	Executive Officer

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I. INTRODUCTION

Graduate education is a significant aspect of an officer's professional growth in the U.S. Navy. Vice Chief of Naval Operations, Admiral Mark Ferguson, offered his firsthand understanding regarding the value of graduate education for U.S. military officers:

We train people to replicate, we educate to reason. You are being educated to reason and to shape our future as we go forward. Your critical thinking and what you learn here will carry forward to the fleet and into our command, into our laboratories, into the field. It's going to be what shapes our future. Each of you are empowered and each of you should take it as a charge that your mission is to make that contribution, make that innovation that makes us better as a service. Challenge some of the things that we are doing. Take the things you have learned and go out there and use it for good – for the good of the Navy, the Marine Corps, and your service. (Ferguson, 2012)

To maintain security interests around the world, the United States services need personnel capable of various responsibilities, such as command a ship, manage a hospital, develop a computer system, supervise operations for nuclear reactors, or fly a jet. To maintain the highest level of military readiness, officers must be adequately educated beyond the basic level of entry education. As stated in a recent national report, “a highly trained workforce is essential to America's future economic competitiveness and national security” (Council of Graduate Schools, 2007, p. 1). “Graduate education is a vital part of the U.S. education system and must be maintained as part of a national strategy on innovation and competitiveness” (Council of Graduate Schools, 2007, p. 5).

The work of graduate students contributes directly to the nation's sustained economic growth and prosperity. Many argue that a highly-trained workforce can be found throughout the U.S. military services. As stated in Department of Defense Instruction (DODINST) 1322.10, “graduate education raises professional and technical competency, and develops the future capabilities of military officers to more effectively perform their assigned

responsibilities” (Department of Defense, 2008, p. 2). Additionally, graduate education enhances the capacity of the Department of Defense (DoD) to “fulfill a present need, anticipated requirement, or future capability” by providing developmental incentives for military officers with the ability, dedication, and capacity for professional growth (Department of Defense, 2008, p. 2).

To obtain a highly-trained workforce and inspire its officers to pursue advanced graduate education, DoD offers numerous educational programs. One such program is the fully-funded in-residence graduate education, such as those that can be obtained at the Air Force Institute of Technology and the Naval Postgraduate School (NPS). Alternatively, partially-funded off-duty education programs are available, in which the services provide tuition assistance for officers to attend institutions of their choice as long as it does not interfere with their normal duties. Partially-funded programs are offered at DoD approved universities and through distance-learning programs. In addition to DoD-sponsored programs, officers may choose to pursue graduate degrees at their own expense, which might include the use of any veteran’s educational benefits such as the Post-911 GI Bill or the Veterans Educational Assistance Program (VEAP).

Human capital investment theory suggests that an organization invests in the training and education of its employees and expects to receive a return on that investment (Becker, 1962). The United States Navy provides a substantial amount of their officers the opportunity for graduate education as part of career management. As a return on investment (ROI), this training will not only increase officers’ general knowledge, but also improve workplace productivity. Graduate education is an investment for which the true rate of return is difficult to determine, since workplace productivity can be attributed to countless other factors. Therefore, it is qualitatively observed that graduate education provides the Navy with well-rounded officers who possess desired technical skills. Officers who attend graduate education receive benefits such as greater

earnings, better promotional opportunities, higher morale, and increased job satisfaction. These benefits are factors that can contribute significantly in shaping a more productive workforce.

In general, private firms have very few incentives to fund general education for their employees due to the uncertainty of a return. The economic theory of human capital refers to investment in human beings as assets that will provide income in the future, similar to investments in physical capital (Woodhall, 1967). Critics of the theory argue that educational achievement may simply serve as a signal of superior ability as opposed to actually increasing the level of a person's knowledge and skills (Li, Liu, Ma, & Zhang, 2005). Investment in human capital generates benefits to both the individual who participates as well as for society as a whole. Individuals gain through increased earnings and more opportunities for employment. Society benefits from the increased productivity of its workers. Governments and corporations throughout the world recognize this return to society and many subsidize all or part of the education costs for their citizens (Woodhall, 1967).

A. PURPOSE OF STUDY

The Navy's graduate education policy has not been revised in over twenty years. Every year, the Navy sends officers to graduate school to obtain knowledge, skills, and abilities (KSAs), which are aggregately identified as subspecialty skills (SSKs). These SSKs not only support Navy work requirements, but also contribute to an officer's career development and encourages higher levels of professional knowledge and technical competency (Department of the Navy, 1991). The cost of a graduate school billet, coupled with the cost of the schooling itself, is a considerable financial investment for the Navy. Therefore, it is important that the Navy properly manage and execute the various Graduate Education Programs (GEPs). As discussed in a 2004 Congressional Budget Office paper, it was found that earning a Master's degree significantly increases the rate of promotion and retention in not only the officer

ranks, but also for enlisted personnel. Clearly, graduate degrees are important to a military career. Officers must decide their promotion path early in their career and must decide which GEP best suits their military career.

B. THESIS QUESTIONS

The following research questions provide the framework for this thesis:

Primary Research Question:

- Should the Navy modify its GEP policy to bring it more in line with today's environment?

Secondary Research Question:

- What changes might be necessary to improve the Navy GEP policy?

C. METHODOLOGY

This thesis includes the following:

- A comparative analysis of fully-funded and partially-funded GEPs in the Navy.
- Analysis of study results to formulate conclusions and recommendations.

D. SCOPE

Members of the Armed Forces serving on active duty shall be afforded the opportunity to enroll in post-secondary education programs that lead to associate's, bachelor's, and graduate degrees (DODINST 1322.25). From this guidance, the Navy issued Secretary of the Navy Instruction 1560.4, which establishes the Navy's Voluntary Education Program. Officers interested in participating in voluntary education programs are provided with guidance and counseling services so they can make the most efficient use of government

resources and the most effective use of their own time, money, and effort. A properly managed program should ensure that officers are afforded such opportunities.

The Navy's primary goal of funded graduate education is to support work requirements identified by specific SSKs. The knowledge and skills gained through graduate education are extremely valuable to both the officer and the Navy. Officers are considered funded if they attend graduate school full time for 26 or more weeks, regardless of whether the degree program is partially or fully-funded. For a fully-funded program, the Navy provides full pay and allowances for the duration of study plus all tuition costs. For a partially-funded program, the Navy provides only pay and allowances, and the individual or an organization other than the Navy pays the tuition. An officer will typically only receive one funded graduate school opportunity in his or her career but may acquire additional, unfunded degrees (Department of the Navy, 1991).

Today's education environment provides many avenues for an officer to obtain a Master's degree. The Navy provides officers with a variety of choices to participate in graduate education. To answer the research questions, this thesis focuses on the fully-funded program at NPS and officers who participate in partially-funded programs.

E. ORGANIZATION

This study is described in six chapters. Chapter II provides background information, a synopsis of the Navy's Subspecialty system, and a review of previous studies regarding graduate education in the Navy. It also contains an overview of the current graduate education system and a detailed description of the selection procedure, service obligation, and the utilization of officers selected to participate in the program. Chapter III identifies and examines the key stakeholders of the Navy's GEP and pinpoints areas where greater efficiencies might be gained in the process. Chapter IV compares fully-funded GEPs with those that are partially-funded. Chapter V places GEP into perspective and

discusses the winners and losers in the program. Finally, Chapter VI presents a summary of the study, conclusions, and recommendations to better execute and manage the Navy's GEP.

II. BACKGROUND, CURRENT SYSTEM, AND SELECTED STUDIES

This chapter provides the reader with background information, a synopsis of the Subspecialty (SSP) system, previous studies, and an overview on the Navy's management of the current Graduate Education Program (GEP). Many studies have been conducted at the Naval Postgraduate School (NPS) on the impact of graduate education on a Naval officer's career. Fuchs (1996), for example, finds that officers who are selected for and complete graduate education are more likely to be successful earlier in their career, and they are more likely to screen for career milestones such as Commanding Officer (CO) and Executive Officer (XO). This thesis assumes that graduate education contributes significantly toward a successful career in the Navy.

A. BACKGROUND

A 2008 Department of Defense (DoD) directive concisely describes the purpose of graduate education in the military (Department of Defense, 2008). As stated, GEPs shall elevate the professional capabilities of military officers in order to accomplish their duties. It must also increase an officer's professional growth and provide DoD with the capability to meet both current and future capabilities (Department of Defense, 2008).

In the Office of the Chief of Naval Operations (OPNAV) Instruction 1520.23B, dated 1 October 1991, the Department of the Navy (DON) delivers general guidance on GEPs. This instruction explains the need to offer officers a level of education beyond the baccalaureate degree to have the required number of officers with SSP skills. In doing so, it also raises the overall professional knowledge of officers and serves as a recruitment and retention tool (Department of the Navy, 1991). OPNAV Instruction 1520.23B uses DoD Directive 1322.10 as one of its primary references in providing graduate education to officers.

The majority of funded Navy graduate degrees are obtained through NPS in Monterey, California. Officers assigned to NPS are considered fully-funded, since these officers attend school full-time, receive all pay and allowances, and have limited military duties. Overall, the Navy's funded GEPs offer more than seventy-degree programs at various military and civilian institutions, with degrees in academic disciplines ranging from Engineering to Public Policy.

The majority of junior officers¹ in the Navy believe that graduate education can greatly increase their chances of being promoted beyond the grade of O4 (Phillips , 2001). Having a Master's degree is an extremely important variable in the promotion selection process. Various ways are available for Naval officers to obtain advanced education degrees. Fellowships and scholarships are highly competitive and are available for a selective group of officers. In the military, officers have the option to obtain their Master's degree through a fully-funded, partially-funded, or unfunded program (Department of Defense, 2008).

1. Fully-Funded Program

Officers receive fully-funded graduate education at NPS, other services' institutions, or an approved civilian institution. Fully-funded programs are more than 26 weeks in length, and officers receive their fully pay and allowance (Department of Defense, 2008). In the Navy, fully-funded programs are tied with subspecialties to fill validated billet requirements (Department of the Navy, 1991). In a fully-funded program, officers "attend school instead of performing usual military duties" (Department of Defense, 2008, p. 6). Most Naval officers attend fully-funded graduate education at NPS. In the past 10 years, NPS has provided specific Navy-related Master's degrees to nearly 5,000 officers (Naval Postgraduate School, 2012). The contractual service obligation of receiving a fully-funded degree must be equal to a period of three-times the length of the

¹ In the Navy, officers at the rank of O4 and below are considered junior officers.

school attended through the first year and one month for each month thereafter. Within two tours after graduation, officers are required to serve one tour in a validated SSP position (Department of the Navy, 1991).

2. Partially-Funded Program

An officer can receive partially-funded graduate education at an approved civilian institution. While pursuing such degree, officers receive full pay and allowances with a portion of tuition costs and fees paid by the officer. Officers attend school and perform their normal duties (Department of Defense, 2008). This thesis considered the Distance Learning (DL) program at NPS as a partially-funded program. In the NPS DL program, classes typically meet once a week from a distributed program office located in either San Diego, California or Norfolk, Virginia. The contractual obligation and SSP tour is the same as for a fully-funded program. In the past 10 years, NPS has provided Master's degrees to nearly 900 Naval officers through DL (Naval Postgraduate School, 2012).

3. Unfunded Program

Officers can pursue a graduate education curriculum during off-duty hours and pay all costs and associated program fees. Unfunded programs fall under the Voluntary Education Program (Department of Defense, 2005). This program allows officers to participate in GEP during off-duty hours. Officers are free to enroll in any resident or DL program that best fits their schedule on a not-to-interfere basis with their daily military duties. Officers may not receive a valid SSP skill code, based on program relevancy to the Navy. Officers are free to use the Veterans Educational Assistance Program (VEAP) or other veteran's benefits such as the Post 9-11 GI-Bill or the Montgomery GI-Bill (MGIB) (Department of Defense, 2008).

Under the unfunded program, officers are also eligible to participate in the Navy Tuition Assistance (TA) Program (Department of Defense, 2005). Eligible officers attend school during off-duty hours, and are entitled to as much as 100 percent of tuition and required fees charged by civilian educational institutions for

course enrollments. Officers who enroll in the TA program are free to choose any area of study; however, officers do incur a two-year service obligation upon completion. If available, the MGIB or the Post 911 GI-Bill may be combined with tuition assistance to reduce out-of-pocket expenses.

B. CURRENT SYSTEM

Since the early 1960s, with Admiral Hyman G. Rickover's second trip to Congress, the funding of graduate education for Department of Defense (DoD) personnel has received considerable attention (Powell, 2004). Advances in technology and society's acceptance of the value of graduate education have significantly propelled the need for continuing education by DoD personnel. Moreover, in the Department of the Navy (DON), many billets have been established that require an advanced degree. These requirements have enhanced retention, increase morale, and provided greater job opportunities for officers after retirement. At the same time, the Navy's senior leaders have continued to underscore the importance of graduate education by steadfastly supporting it through the GEP. To better understand GEP, one must examine how it operates through the selection process, service obligation, and utilization of officers who receive Navy-funded graduate education. Through an integrated manpower and personnel classification system, the Navy manages GEP by placing a value on manpower requirements with SSP skill codes to execute work requirements.

1. Selection Process

The Navy's method for identifying officers for funded graduate education is through the Graduate Education Selection Board (GESB). The GESB is responsible for selecting officers who are likely to perform well and develop skills applicable to Navy billets (Department of the Navy, 1991). Selection for a GEP is based on academic capabilities, proven professional performance, promotion potential, and strong educational background. The preferred population to send to graduate school is officers at the rank of Lieutenant Commander and below

with less than ten years of commissioned service. This preferred timeframe is simply to develop an inventory of officers with the appropriate mix of subspecialties and academic disciplines to meet future manpower requirements. Based on the needs of the Navy, Commanders and Captains may be screened, but they are required to obtain approval from a higher authority for nomination to graduate school (Department of the Navy, 1991).

The Graduate Education Review Group (GERG) provides an annual review of graduate education issues. In addition, a Graduate Education Review Board (GERB), acting as the Board of Trustees for NPS, establishes policy guidance and direction, long-range goals and objectives, and resource oversight for the fully-funded GEP. The composition of the GERG and GERB is established in OPNAVINST 1000.16K, "Manual of Navy Total Force Manpower" (Department of the Navy, 2001).

2. Qualification

As stated in Department of the Navy Instruction (OPNAVINST) 1520.23B, "all officers who are eligible for promotion are also eligible for selection for funded graduate education" (Department of the Navy, 1991). The basic qualification is that officers must possess an undergraduate degree from an accredited four-year institution with a 2.3 (on a 4-point scale) or greater grade point average. Officers who already have a graduate degree funded through any DoD assistance program are not eligible. Program candidates "should show great promise as a Naval officer, capable of transformation and leadership in the challenging operational environment of the future" (Department of the Navy, 2005, p. 5).

3. Assignment Consideration

For assignment consideration, officers are administratively screened by NPS to determine if they are academically qualified through an Academic Profile Code (APC). The Navy utilizes the APC as an initial indicator of academic ability. Appendix A of this thesis lists the minimum APC requirement for fully-funded programs at NPS. Based on quotas available, qualified officers are considered

eligible for assignment. In addition, other officers who are also professionally qualified but lack the necessary academic qualifications can provide documented evidence of good academic performance in a voluntary education program to enhance assignment possibility. The criterion for assignment consideration is that officers must complete their initial community qualifications, as well as participate in a study area that supports the community SSP requirements, and that other career milestones will not be affected due to lost time (Department of the Navy, 2009).

4. Eligibility

Officers who are screened for graduate education and who meet academic entry requirements are considered eligible for assignment to tours of duty consistent with their individual community needs and rotation dates. To attend Navy-funded graduate education, officers must be in the active duty force and have not previously attended a DoD-funded educational program. Officers must also hold a conferred baccalaureate degree with a minimum qualifying APC (Department of the Navy, 2009).

5. Notification Selection

Indication that an officer has been selected for graduate education can be found in the education status portion of the Officer Data Card (ODC) (Department of the Navy, 2009). Officers can learn of their ODC status at BUPERS Online (BOL), a web site for Navy personnel, or by contacting their individual detailer.

6. Obligated Service

Generally, officers who complete certain formal education or training, conduct a permanent change of station, or accept a certain promotion will incur an Active Duty Service Obligation (ADSO). This provides the Navy with the capability to effectively manage its resources, accomplish its assigned mission, and maintain an educated officer force. This will also ensure a reasonable return on the expenditure of public funds. Additionally, the ADSO must be completed

prior to the time that the officer is eligible for retirement or separation. Officers attending a funded GEP while on active duty must serve a period of service three-times the length of education through the first year. An additional month of service for each additional month of education is further required, and this ADSO is to be served concurrently with any other service obligation (Department of the Navy, 1991).

7. Utilization

Department of Defense Directive 1322.10, Policy on Graduate Education for Military Officers, and OPNAVINST 1520.23B, Graduate Education, govern the utilization of officers with graduate degrees procured through funded programs. "Utilization" is the Navy's term for compliance with the DoD requirement that an officer be assigned to a billet that uses the education received. Officers with a Navy-funded graduate education degree "will serve one tour in a validated SSP position as soon as possible and no later than the second tour following graduation" (Department of the Navy, 1991). These officers will serve in as many positions in related SSP billets as the Navy requires and career development permits. Officers who receive graduate degrees and graduate-level SSP codes through unfunded programs are utilized whenever possible to fill validated requirements. Assignments are based on the same criteria used for officers completing funded education. As with the previous two areas, the Chief of Naval Personnel must also approve exceptions to these rules (Department of the Navy, 1991).

Utilization of fully-funded graduate education is a critical part of the officer SSP system and requires careful management. Officers who invest themselves in further graduate education should expect to use the education, regardless of who funds it. Utilizing the Officer Master File (computerized officer personnel records), the Navy is able to identify officers who received a fully-funded graduate education and have yet to fulfill their payback tour requirement. Navy Personnel Command (NPC) tracks the SSP utilization rate by community. The

DoD directive and OPNAVINST provide some flexibility in that utilization can be deferred to the subsequent tour following completion of schooling. Such flexibility allows the Navy to meet immediate operational needs and other important career requirements. NPC also uses a database to manage the status of officers who received graduate education with respect to utilization, based on the DoD requirement.

Department of Defense and Navy Compliance and Utilization rates by designators from September 2008 through September 2011 are shown in Table 1. From these data, one can see how well each community manages the utilization of officers with fully-funded education. As seen in Table 1, of the groups examined, the Restricted Line [RL] staff officer category has the highest DoD compliance utilization rate at 98 percent, with an overall Navy compliance utilization rate of 86 percent. A target utilization rate is not specified in either the DoD Directive 1322.10 or in the OPNAVINST 1520.23B. NPC uses 70 percent as the acceptable utilization rate, and anything below 70 percent is considered as requiring improvement.

a. *Waivers*

In accordance with OPNAVINST 1520.23B, officers who received Navy-sponsored graduate education are required to complete a follow-on tour utilizing that education at first opportunity. This follow-on tour is known as a “utilization tour”. However, MILPERSMAN 1301-900 allows NPC to provide waivers to officers in cases where this follow-on tour would deter key operational billets such as department head, executive officer, or commanding officer. In simple terms, the waiver process is an administrative function between the detailee and the placement officer. During the detailing process, placement officers and detailers negotiate utilization waivers prior to nominating individual officers into a key operational tour.

Table 1. DoD and Navy Utilization Rate, September 2008–September 2011
(From Navy Personnel Command- Pers-45E)²

Desig	Out of Zone No Util	In Zone No Util	In Zone Sep	Out of Zone Sep	One Util Tour Out of Zone	Multi Util Tours Out of Zone	One Util Tour In Zone	Multi Util Tours In Zone	DoD Comp Opp	Navy Total Comp Opp	Percent DoD Comp	Percent Navy Comp
111X	206	976	19	36	38	0	221	77	336/ 391	298/ 597	86%	50%
112X	61	380	6	24	14	2	80	35	131/ 161	115/ 222	81%	52%
13XX	147	975	26	52	37	2	293	83	415/ 493	376/ 640	84%	59%
Staff/ RL	166	880	19	24	77	9	731	1052	1869/ 912	1783/ 2078	98%	86%
FIN Mgmt	90	569	30	13	10	0	74	27	111/ 154	101/ 244	72%	41%
OPS Analy	34	131	7	2	14	2	90	36	142/ 151	126/ 185	72%	68%
Total	580	3211	70	136	166	13	1325	1247	2751/ 957	2572/ 3537	72%	73%

8. Navy's Subspecialty System

The information presented in this section is derived from the Navy's SSP Handbook, Section 804, and OPNAVINST 1000.16K. The Navy SSP system was developed as a means for the Navy to “define advanced officer graduate education requirements, functional training, and significant experience in various fields and discipline” (Department of the Navy, 2010). It is based on answering questions such as: “How many ships, airplanes, submarines, and shore stations are required?” And then: “How many qualified people with specific knowledge,

² A list of Table 1 definitions is contained in Appendix B.

skills, and abilities are necessary and available to operate them?” Obviously, economic and political realities play an important role in answering these questions and forming the actual composition and needs of the force.

The Navy SSP system “is an integrated manpower and personnel classification and control system, which establishes criteria and procedures for identifying officer requirements for advanced education, functional training, and significant experience in various fields and disciplines”(Department of the Navy, 2010, p. 2).Officers are assigned SSP codes based on relevant completion of graduate education and/or work experience. SSP codes are comprised of five characters to include four numerals and an alphabetic suffix. The first digit indicates the SSP Major Area and the second digit indicates Concentration Area. Finally, the third and fourth digits provide specificity, and the fifth character stipulates the level of education, training, and experience (Department of the Navy, 2009). Table 2 shows the SSP code suffixes attained through the various methods. Of note, a “P” suffix is described as an unproven SSP code, meaning that officers have obtained a Master’s degree in an approved Navy SSP field, but have yet to complete a full tour utilizing this education. After completing such tour, the officer is awarded the “Q” suffix or other proven SSP code. A list of SSP codes is presented in Appendix A.

Table 2. Navy Officer Subspecialty Codes (From Department of the Navy, 2009)

P	Master's level of education
Q	Master's level of education - <u>proven</u> subspecialist
R	Significant experience - <u>proven</u> subspecialist
S	Significant experience
B	Validated requirement for master's or higher level of education but second priority to P, Q, M, N, C, or D-coded billets; used when subspecialty code compensation has not been identified. Applies only to billets.
C	PhD level of education - <u>proven</u> subspecialist
D	PhD level of education
E	Baccalaureate level of education in a field applicable to the subspecialty
F	Master's degree not fully meeting Navy criteria in a degree program - proven subspecialist
I	Master's degree completed by Immediate Graduate Education Program graduates not fully meeting Navy criteria in a degree program. Applies only to officers.
M	Post-master's graduate degree
N	Post-master's graduate degree

Furthermore, the SSP system is also the method of determining the Navy's needs in funding graduate education quotas. It is organized into five parts: billet requirements, curricula content, annual quotas, inventory, and utilization (Department of the Navy, 2009). In recent years, various commands have placed a great deal of emphasis on selecting officers for assignment to their activity with SSP codes. This has led to a dramatic increase in the number of officers in search of graduate education to obtain an SSP code. An officer who possesses an SSP code is now more qualified and can be detailed into more billets, which in turn provides more opportunity in the detailing process.

C. SELECTED STUDIES

In conducting this research, many government reports, websites, and previous studies were reviewed; however, a few selected studies were deemed of greatest relevance to this research. The primary objective in reviewing each study was to summarize the approach and delivery of graduate education, focusing on the following: (1) specific elements of the Navy's funded GEP; (2)

return on Investment in Navy graduate education; (3) effectiveness of the Voluntary Education Program; and (4) distance learning versus traditional learning.

1. Evaluating Navy Funded Graduate Education Programs (2010)

The Navy wanted to assess the Return on Investment (ROI), both qualitatively and quantitatively, in providing fully-funded graduate education to its officers. In 2010, the Navy directed the RAND National Defense Research Institute to conduct an evaluation of the Navy's Funded GEP. This study, authored by Kristy N. Kamarck, Harry J. Thie, Marisa Adelson, and Heather Krull, focused primarily on officers who attended a fully-funded program at NPS, the Air Force Institute of Technology (AFIT), or at a civilian graduate institution. The central question remains: is there a value to the Navy in providing funded graduate education?

The RAND researchers compared the Navy's GEPs and metrics against those of the other military branches. Additionally, the researchers reviewed the educational policies of DoD and the Navy while conducting a comprehensive analysis of the surface warfare and meteorology and oceanography communities. They conducted a thorough review of the percentage of officers who received fully-funded graduate education and had yet to fulfill the utilization requirement of serving in a SSP billet within two tours following graduation. The authors conclude:

Given the number of Q-coded officers in the Navy in 2009, we can assume that 26 percent of all graduate-educated officers currently in the Navy between grades O-3 and O-6 have completed at least one utilization tour. The Navy reports that 23 percent of officers complete one utilization tour within two shore tours following graduation. The estimated average career assignment rate for active-duty officers to utilization billets across the entire Navy is 53 percent, while URL and RL assignment rates are between 47 and 73 percent, respectively. Rates also vary by community; for example, oceanography and civil engineering have the highest career utilization rates, while aviation and special operations have the lowest. (Kamarck, Thie, Adelson, & Krull, 2010, p. 27)

The authors discovered that many of the P or Q billets were being filled by officers who may not have had a graduate degree or a degree specific to those billets. They estimated that the average fill rate for all the communities was around thirty-five percent, with an exact-fit rate of about twenty-four percent. Additionally, many officers who eventually filled a SSP billet were having a significant lag time between their actual graduation and their payback tour (Kamarck et al., 2010).

Kamarck et al. (2010) note that the various communities throughout the Navy have many differences in the way they manage and execute their GEP. According to the authors, this is due largely to philosophical differences between the program managers and the respective community managers. The program managers are responsible to manage and execute their respective programs within the Navy, where the community managers are more interested in supporting the CNO staffing initiatives and strategic-level options.

The RAND researchers discovered that the new policy language and intent from the Office of the Secretary of Defense suggest a broader and more-extensive use of funded graduate education beyond educating for validated billets (Kamarck et al., 2010). Thus, the Navy should educate its officers for future capabilities and not for present needs. Although the authors found it difficult to measure the qualitative effects of graduate education, they did believe that the overall benefits in terms of ROI could be measured. Officers who receive funded graduate education are required to complete more than one utilization tour and extended service time in those billets. Kamarck et al. (2010) divide their recommendations into three areas: policy, culture, and monitoring and evaluation.

As for policy, the authors conclude that the Navy could shift graduate education toward development of future capabilities by taking a top-down approach (Kamarck et al., 2010). This would bring the current Navy policy more in-line with current DoD policy. The authors also felt that, to guarantee a ROI, the Navy should make graduate education available only to officers who are both

competitive and incline to remain in service beyond the rank of Captain (Kamarck et al., 2010). The last recommendation suggests that the authors neglect to fully recognize graduate education's role in supporting retention, as many billets are tied to SSP codes. The Navy must continue to provide graduate school to a vast number of officers to maintain its future capabilities.

As far as culture, the authors state that the Navy should set a goal that 90 percent of all officers advancing to O-5 must have a graduate degree (Kamarck et al., 2010). This is pretty much the “gouge” throughout many of the Navy's communities. Although this is not addressed in the Navy's graduate education policy, officers understand that having a Master's degree will make them more competitive for O-5. The Air Force actually uses the approach, where having a Master's degree is included for promotion consideration. Many officers are provided with graduate education but are not able to fulfill the payback requirements. To alleviate this problem, the authors feel that community leaders should “only develop goals for the types of graduate degree curricula that would support their anticipated capability requirements beyond current validated billet requirements” (Kamarck et al., 2010, pp. 62–63). This would force community leaders and community managers to become more selective in awarding graduate school quotas. A final recommendation is that “community leaders should also seek to provide incentives for matching new graduates with assignments to validated billets to increase economic returns to their education investments” (Kamarck et al., 2010, pp. 62–63).

For monitoring and evaluation, Kamarck et al. (2010) recommend that the Navy should increase its utilization metric and improve monitoring and assessment of its GEP. Additionally, the Navy should enhance data collection and periodically evaluate GEPs under a hierarchy of outcomes (Kamarck et al., 2010, p. 63). Finally, the RAND research team notes that both the Navy and the officer benefit from the knowledge and skills gained from graduate school. Figure 1 displays how these benefits are measured in terms of human and social capital development theory in relation to organizational returns. However, due to

recent shifts with DoD policy language and intent, the Navy should look at increasing the one-tour utilization and assess the value of graduate education in terms of future capabilities.

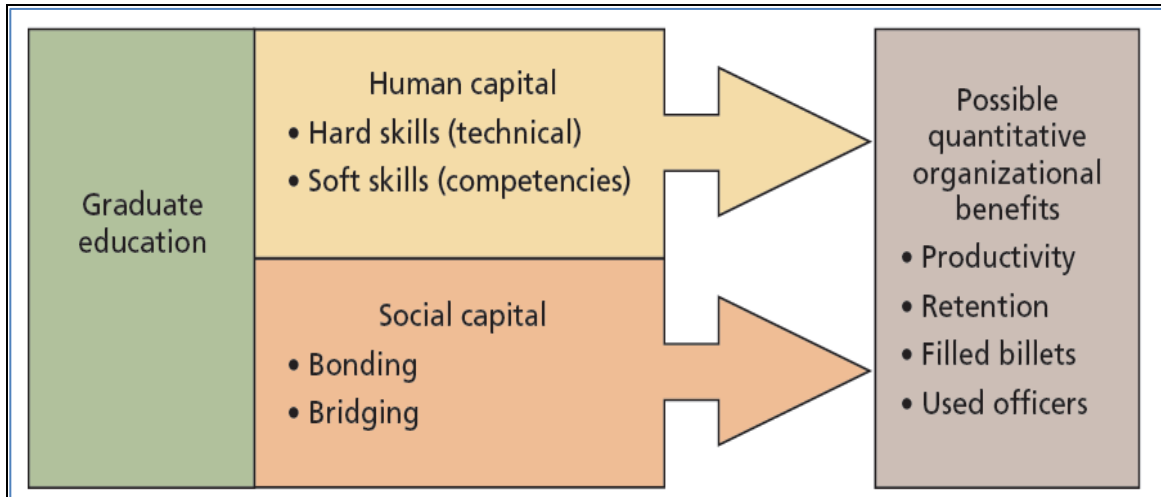


Figure 1. Possible Benefits of Graduate Education to the Navy (From Karmarck et al., 2010)

2. Return on Investment in Navy Graduate Education (2004)

In 2004, Stephen L. Mehay and William R. Bowman conducted a study on the “Return on Investment in Navy Graduate Education.” The authors wanted to analyze and compare the costs and benefits of the fully-funded degree, off-duty degree, and no degree. They utilized data from the Surface Warfare Officer (SWO) community to simulate the effects of graduate degrees on an officer’s career progression. The analysis simulated retention and promotion of SWOs by Master’s degree status. Figure 2 provides the average SWO Career Progression by level of graduate degree. Mehay and Bowman (2004) discovered that the promotion rates of officers who received a fully-funded degree were higher than the promotion rates of officers who received an off-duty degree or no degree at all. They also found that officers with a graduate degree tend to stay in the Navy much longer than do officers with an off-duty degree or no degree. In the end, Mehay and Bowman (2004) discovered that fully-funded degrees tend to provide positive net benefits to the Navy’s retention of qualified officers.

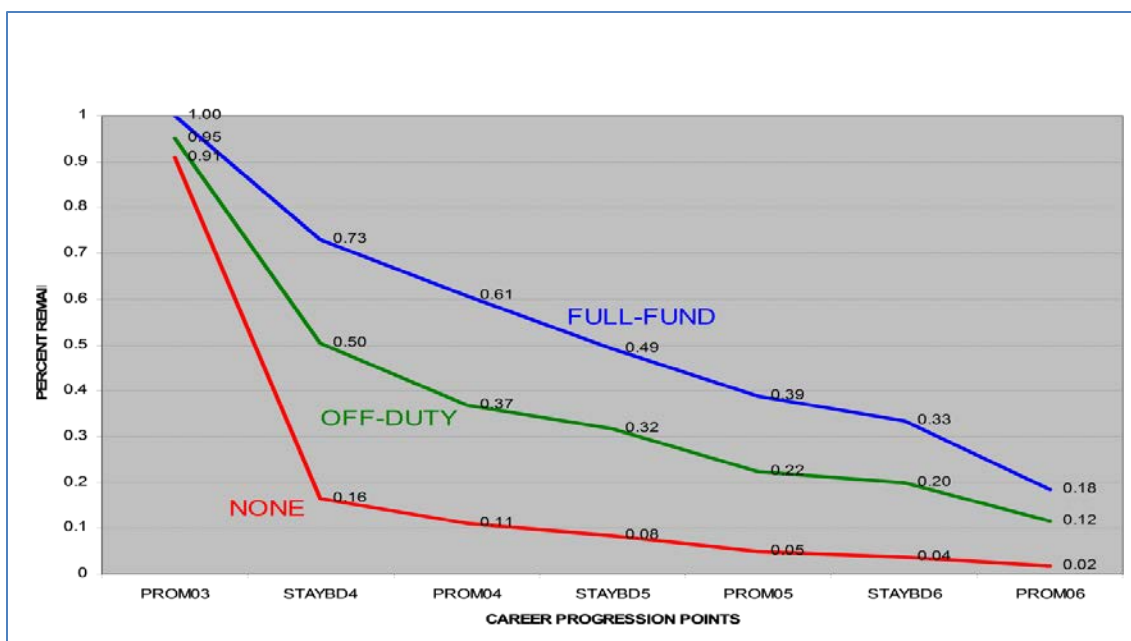


Figure 2. Average Surface Warfare Officer Career Progression by Graduate Degree (From Mehay and Bowman, 2004)

3. Effectiveness of the Voluntary Education Program (1998)

In 1998, researchers from the Center for Naval Analyses (CNA) conducted a study on the “Effectiveness of the Voluntary Education (VOLED) Program.” VOLED is geared toward assisting sailors who want to continue their education during off-duty hours. The CNA study was authored by Federico E. Garcia, Ernest H. Joy, and David Reese. The study focused on VOLED’s cost-effectiveness and its impact on promotion and retention. In addition, the study sought to answer if VOLED’s services could be enhanced to better support sailors (Garcia, Joy, & Reese, 1998).

The authors created a data file of about 61,000 active-duty enlisted sailors who participated in the VOLED program. Additionally, 3,400 officers received tuition assistance, the largest enrollment level out of the three elements. Normally, officers participate in neither the PACE nor the ASLC elements. The

authors used a cost-benefit analysis of the three elements to calculate the gains and losses resulting from increasing college and academic skills enrollments (Garcia et al., 1998).

In the promotion model, Garcia et al. discovered that the effect of VOLED is positive (and statistically significant) for sailors who participated in the program and that their promotion prospects were improved. The authors also point out that the motivation of sailors who participated in the program could be higher than the sailors who are in the non-participating group. Sailors who did not participate in the program were 14 percent more likely of being demoted than were those who participated in the program (which had a demotion rate of 7 percent). Additionally, Garcia et al. discovered that sailors who participate in VOLED tend to improve their likelihood of remaining in the Navy, where those who initially intended to leave wind up staying. Thus, sailors who participate in VOLED wind up being more likely than non-participants to stay in the Navy (Garcia et al., 1998).

4. Distance Learning Versus Traditional Learning: Various Studies

Since the mid-1990s, Distance Learning (DL) has become widely popular. Nationwide, according to the U.S. Department of Education, 4.3 million students were taking at least one online course during the 2008 academic year (U.S. Department of Education, 2011). For each of the past eight years, Allen and Seaman (2011) have sought to answer fundamental questions about the nature and extent of online education.

Allen and Seaman estimate that over 6.1 million students were taking at least one online course during the fall 2010 term. This constitutes an increase of 560,000 students over the number reported for the previous year. This 10-percent growth rate for online enrollments far surpasses the less than one-percent growth of the overall higher education student population. As noted, 31 percent of all higher education students now take at least one course online.

Nevertheless, the question remains: does the online method of instruction significantly affect the performance of sailors who participate in the Navy's Tuition Assistance (TA) program (Allen & Seaman, 2011)?

Research by Mehay and Pema (2010) found that sailors who enroll in online classes are less likely to complete their TA classes. The negative effect is partially reduced when enlistees who are more senior take DL courses. It is likely that the lower completion rates for DL courses are due to the heavier work demands of DL students when compared with sailors who take traditional classes (Mehay & Pema, 2010). A similar study conducted by Woosley (2009) found that DL has a negative effect on the likelihood that a student will pass his or her TA-funded course.

Other studies have found relatively no differences regarding student performance between DL and traditional classroom styles of learning. Wegner, Holloway, and Garton (1999), for example, examined the effects of distance learning on student achievement. In the study, Wegner et al. compared test scores and satisfaction survey results to those of a control group whose instructional opportunities were from traditional in-class models. The authors found no difference between the test scores of the two groups. Additionally, while statistically significant data could not be produced in the area of student perceptions, general observations supported the finding that students in the experimental group had a more positive feeling about their experience than did students in the control group (Wegner et al., 1999).

5. Rethinking the Naval Postgraduate School (2000)

In July 2000, Lieutenant Commander Janice Graham, a retired Naval officer wrote an article published in the *Proceedings* stating that NPS is costing the Navy too much money and that the Navy should privatize its GEP. Graham felt that the Navy was unable to enforce the utilization policy of having officers serve in at least one utilization tour within three years of graduation. Additionally, Graham believed that an NPS education is neither relevant nor specific to the

Navy. Further, the author surmised that many officers are not thrilled about leaving the fleet to pursue a funded degree at NPS, not wanting to disrupt their operational rhythm and competitive position with their peers. To alleviate this problem, Graham's suggested that the Navy outsource its GEP or provide vouchers for officers to earn their degree through a DL program or any other approved institution (Graham, 2000).

6. Naval Postgraduate School is About Value (2000)

In response to Graham's article, Admiral Henry H. Mauz Jr. (U.S. Navy retired) and Bill Gates authored an article for the *Proceedings*, titled "It's About Value." Gates and Mauz believe that "although many civilians institutions offer graduate education, none provide it with the unique Naval and defense characteristics that NPS offers" (Mauz & Gates, 2000, pp. 60–64). Gates and Mauz also state that NPS is different from civilian institutions in the sense that NPS is able to ensure that the curriculum offered is tailored for the Navy. If given vouchers to select their own field of study, officers may not necessarily match the needs of the Navy. Additionally, Mauz and Gates observe that admission at NPS is controlled by an officer's performance and not his or her undergraduate grade point average or standardized test scores. Therefore, motivated officers are able to easily transition from one undergraduate area to a completely different graduate major. The authors also mention the relationship of students and faculty. Yearly, faculty and students participate in over 500 research projects that are relevant to both the Navy and DoD (Mauz & Gates, 2000).

7. NPS Thesis Series

a. S. S. Jordan, *An Analysis of the Impact of Graduate Education on the Performance and Retention of General Unrestricted Line Officers* (1991)

In this Master's Thesis, Susan S. Jordan received her data from the Defense Manpower Data Center (DMDC) in Monterey, CA, using the Navy's Officer Promotion History Data Files and the Office Master Record files. These

data, from 1981 through 1990, contained information on all Naval officers, both active and reserve in the ranks of Lieutenant Junior Grade (O-2) through Rear Admiral (O-7). This analysis focused exclusively on officers in the Unrestricted Line (URL) category (Jordan, 1991).

Jordan found that graduate education has a positive impact on being promoted from Lieutenant (LT) (O-3) to Lieutenant Commander (LCDR) (O-4). Further, officers who attended NPS were found more likely to be promoted than officers who attended a partially-funded program at a civilian institution. This may stem from the fact that officers at NPS are more likely to receive Navy-specific education. For promotion from LCDR to Commander (CDR), again, the study again found that graduate education has a positive effect. Finally, for CDR and above, the results are somewhat different. The results show that graduate education for CDR and above had no significant effect on promotion. This particular finding relates to the fact that more than 50 percent of the officers already had a Master's degree (Jordan, 1991).

b. E. L. Conzen, An Analysis of the Impact of Fully-funded Graduate Education on the Retention of Naval Officers (1999)

In this study, Eric L. Conzen also used data obtained from DMDC in Monterey, CA. These data contained officers from both the active and reserve component between 1992 through 1998. Conzen focused on officers at the LT and Captain (CAPT) (O-6) level. To ensure retention accuracy, Conzen removed all officers who left the Navy involuntarily, since they would not be relevant to the study. Additionally, officers who attended NPS during the last 3 years of this data set were also removed because the officers were still under their three-year service obligation. Removing the officers from the NPS sample was extremely important, since these officers were still within their commitment (Conzen, 1999).

This study supports the finding that officers with fully-funded graduate education are promoted at a higher rate and are more likely to remain in the Navy until they reach the ten-year mark. This could be because officers

who receive graduate education incur a three-year obligation. Most URL officers attend graduate school during the 4–5 year mark. After completing two years at NPS and another three years of service obligation, officers are normally around the 10-year mark of service time (Conzen, 1999).

c. G. A. Branigan, *The Effect of Graduate Education on the Retention and Promotion of Marine Corps Officers* (2001)

In this study, Gregory A. Branigan obtained promotion board data for Marine Corps Majors (Maj) (O4) who were in-zone for promotion to Lieutenant Colonel (LtCol) (O5) during the fiscal years 1998 through 2001 boards. These data were compiled by CNA for officers who were commissioned between 1979 and 1984. He also obtained additional data from NPS, DMDC in Monterey, CA, the Marine Corps Performance Evaluation Division, and the Manpower Information Center. To ensure accuracy, Branigan removed all officers who separated from active duty prior to November 1984. Additionally, he focused on officers who received their Master's degree at both NPS and other institutions. Overall, Branigan used a sample size of 6,507 officers commissioned as Second Lieutenant (2ndLt) (O1) from December of 1979 through September of 1984 (Branigan, 2001).

This study indicates that officers with a Master's degree have a 15 percent higher probability of promotion and a 12 percent higher probability of retention. When comparing officers with and without a Master's degree, Branigan (2001) discovered that officers with a fully-funded degree at NPS were 15 percent and 12 percent more likely than those without a degree of being promoted and retained, respectively. Further, officers with a Master's degree from a non-NPS institution were almost 13 percent more likely of being promoted and 17 percent more likely of being retained (Branigan, 2001).

d. *J. P. Pearson, The Effect of Graduate Education on the Performance of Air Force Officers (2007)*

This 2007 study by Jeffrey P. Pearson analyzed data from the Air Force active duty officer Master file at DMDC in Monterey, CA. The file contained information on officers from First Lieutenant (1stLt) (O-2) through Major (Maj) (O-4) who were on active duty from 1992 through 1996. Pearson restricted the data to just the Line Air Force (LAF) officers, which meant that officers in professional fields such as medical and legal were excluded. To ensure accuracy, all prior enlisted officers without a Bachelor's degree were also excluded. Overall, this study included 27,506 observations (Pearson, 2007).

Pearson discovered that graduate education is a key variable in the retention rate for LAF officers. In simple terms, having a Master's degree improved the likelihood of retention by 1.96 percentage points for Captain (Capt) (O-3) and 0.573 percentage points for Major (Maj) (O-4) (Pearson, 2007).

D. CHAPTER SUMMARY

Findings from the background information and the studies reviewed here confirm the Navy's dedication toward providing the best educational opportunities for its officers. In the past twenty years, many changes have occurred in the availability, approach, and delivery of graduate education. Throughout this time, in the face of significant programmatic and budgetary challenges, the Navy continues to recognize that graduate education must be given high priority. It not only supports billet requirements, but also benefits the entire organization by encouraging higher levels of professional knowledge and technical competence among the Navy's best officers.

This chapter reviews background information on the Navy's GEP, provides an overview of the current program, describes the results of selected studies, defines the selection process, officer service obligation, and officer utilization associated with the Navy's funded GEP. In particular, it focuses on the Navy's SSP system, the voluntary education program, and the different Instructions and

Directives that govern the Navy's graduate education system. Of special mention, the study by Kamarck et al. (2010) provides a quantitative and qualitative Return on Investment (ROI) framework on the effects of graduate education. Although capturing the benefits of graduate education can be difficult at best, the researchers from RAND clearly demonstrate that the Navy must continue to evaluate, and appreciate, the broader implications of investing in its GEPs. Considering recent and projected budget cuts throughout DoD, one can likely expect changes in many military programs related to pay and benefits, including graduate education. Having a clear understanding of the system will better prepare Navy leaders in making effective changes. The next chapter discusses the leaders who have a stake in the Navy's funded GEP and pinpoints areas where greater efficiencies might be gained in the process.

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III. KEY STAKEHOLDERS IN THE NAVY

The accomplishments and progress of any program rest on its ability to satisfy its stakeholders. Bryson defines stakeholder as “any person, group, or organization that can place a claim on the organization's attention, resources or output, [and] is affected by that output” (Bryson, 1995, p. 27). Identifying key stakeholders can help to explain the Navy’s Graduate Education Program (GEP) by showing how it reaches across various elements and communities within the organization. In defining stakeholders on a macro scale, some people may include different organizations such as congress, taxpayers, or any other organizations and individuals with a stake in national security. For simplicity and practicality, this research examines only Navy *key* stakeholders who are directly affected by the GEP process.

A significant amount of literature can be found on the definition and methods for mapping and identifying key stakeholders. As Bryson states, “it is hard to imagine effectively managing relationships without making use of carefully done stakeholder analyses” (Bryson, 2004, p. 6). It is critical to identify stakeholders who have the potential to affect, or be affected by, changes to the Navy’s GEP. This chapter identifies these key stakeholders and defines the areas of responsibility that are most important to fulfill the mission.

A. STAKEHOLDERS

This examination begins by identifying key stakeholders within the Navy’s GEP program and describing their responsibilities in the process. Utilizing the Contrasting Model of the Corporation theory created by Donaldson and Preston (1995), key stakeholders are identified in a conventional input-output perspective as shown in Figure 3. In this model, “investors, employees, and suppliers are depicted as contributing inputs, which the ‘black box’ of the firm transforms into outputs for the benefit of customers” (Donaldson & Preston, 1995, p. 68).

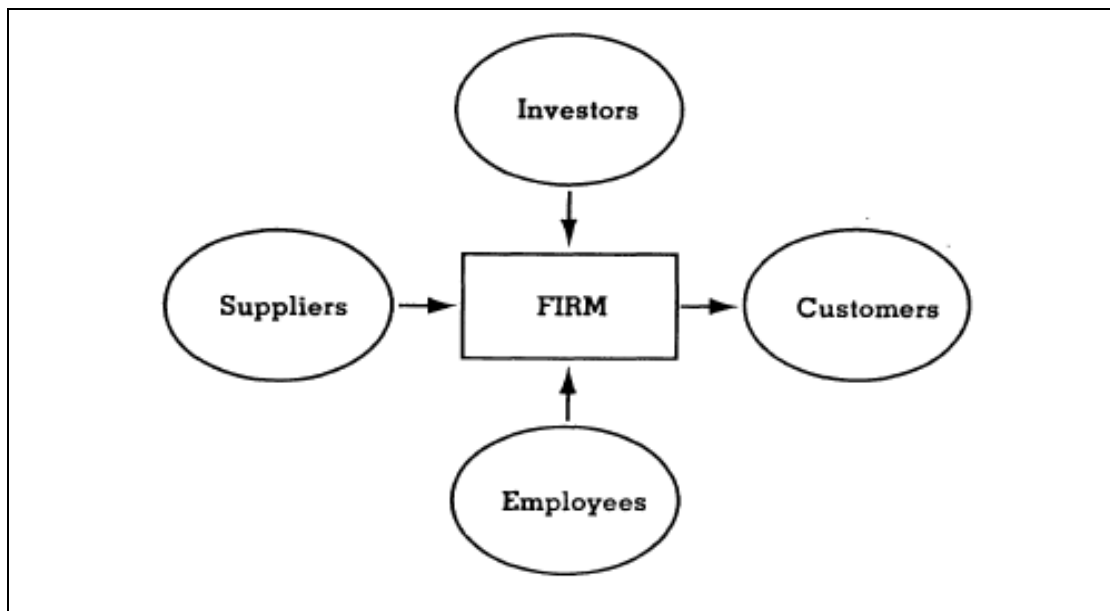


Figure 3. Contrasting Model of the Corporation: Input-Output Model (From Donaldson & Preston, 1995)

For the Navy, the individual officers are depicted as the customers, and the different individuals and commands are depicted as investors, employees, and suppliers, as shown in Figure 4. The specific commands and individuals that have a direct interest, or stake, in the fully-funded GEP include the following:

- Deputy Chief of Naval Operations (DCNO)
- Assistant Vice Chief of Naval Operations (AVCNO)
- Commander Navy Personnel Command (NPC)
- President, Naval Postgraduate School (NPS)
- Commander, Naval Education and Training Command (NETC)
- Commander, Naval Education and Training Professional Development and Technology Center Officer (NETPDTC)
- Commander, Naval Personnel Development Command (NPDC)

- Commanding Officers (COs)
- Individual Officers

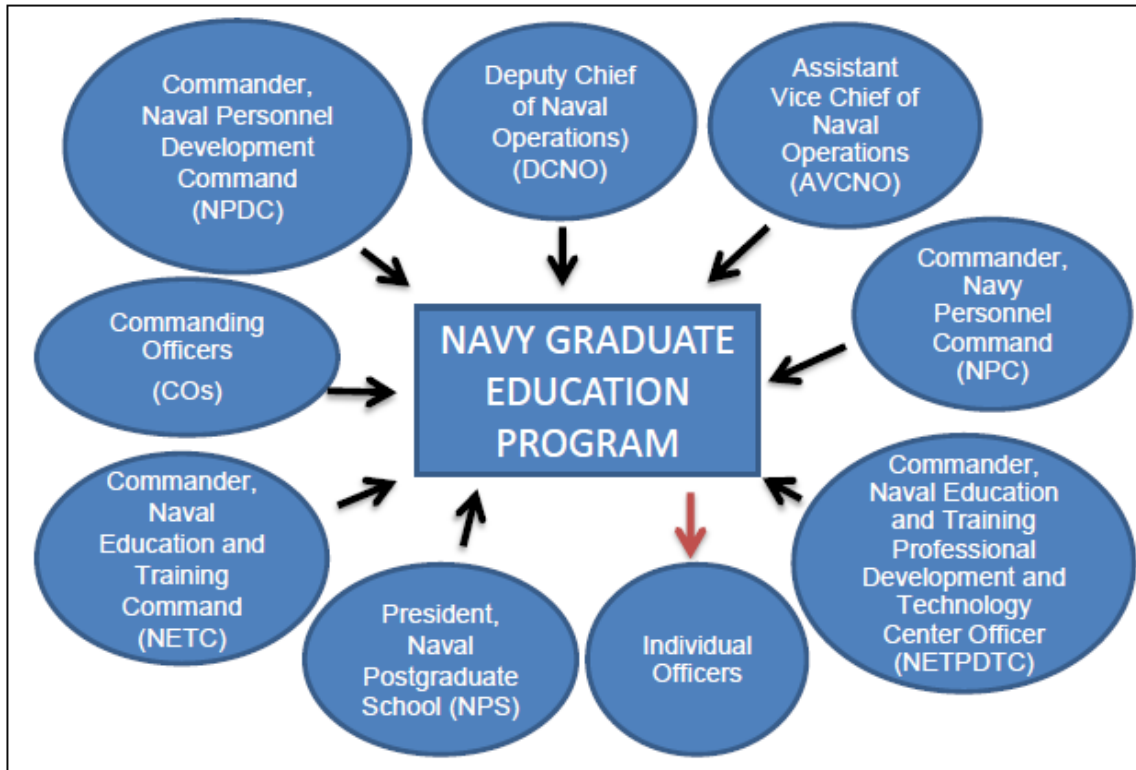


Figure 4. Graduate Education Stakeholders Map: Key Stakeholders in the Navy Fully-Funded GEP

Contributors of inputs are expected to provide appropriate support to fully satisfy the GEP's objectives and requirements. It should be noted that, although these key stakeholders are positioned separately in the map, many share a relationship with other stakeholders. For example, the office of the Chief of Naval Operations (CNO) ensures that NPS is awarded stable fiscal support for funding, development, and growth (Department of the Navy, 2005). Further, NPS develops curricula content that meets the educational skill requirements (ESRs) of the primary subspecialty (SSP) consultants and provides these curricula content recommendations to the Chief of Naval Operations (Department of the Navy, 1991).

B. STAKES

Individual key Navy stakeholders are defined as having a direct relationship to the graduate education process. These key stakeholders and their responsibilities are discussed below. A number of other individuals and commands support the Navy's GEP; however, they are not included in this discussion because their relationship to the process is indirect.

1. Deputy Chief of Naval Operations (DCNO)

The DCNO establishes and maintains procedures for forecasting graduate education requirements. The DCNO must also act as the resource sponsor for the GEP program by establishing performance metrics. Moreover, the DCNO establishes an annual quota plan that is based on validated SSP billets (Department of the Navy, 1991).

2. Assistant Vice Chief of Naval Operations (AVCNO)

The Assistant Vice Chief of Naval Operations is responsible for providing resources that are required to support GEP and for developing the budgetary requirements for these resources. The AVCNO also serves as a claimant for student and staff billets (Department of the Navy, 1991).

3. Commander, NPC

Navy Personnel Command (NPC) has overall functional responsibility of GEP and manages the daily operations. It also approves officers for the Graduate Education Voucher (GEV) program and forwards a list of approved GEV applicants to the Naval Education and Training Professional Development and Technology Center Office. NPC is "where the rubber meets the road" in making the initial decision on who will be funded or not funded. Other key NPC responsibilities include:

- Track and maintain a list of officers who have completed a Master's degree under a partially-funded or fully-funded program.

- Award SSP codes and assign officers to validated SSP-coded billets, as required.
- Ensure compliance with service obligation to achieve an acceptable utilization rate of graduate-educated officers.
- Provide SSP utilization and payback tour waivers.

NPC is a major stakeholder in the Navy GEP; thus, failure is not an option. To ensure its success, NPC selects the best individual officers to participate in the GEP program. In doing so, NPC conducts annual selection boards to select officers who demonstrated the highest potential for promotion and retention. Finally, NPC must ensure that selected officers are assigned to graduate curricula as directed by the annual officer graduate education plan (Department of the Navy, 1991).

4. President, NPS

The NPS mission is “to provide high-quality, relevant and unique advanced education and research programs that increase the combat effectiveness of the Naval Services, other Armed Forces of the U.S. and our partners, to enhance our national security” (Naval Postgraduate School, 2012, p. 7). Although NPS aims to increase the combat effectiveness of the military and satisfy the needs of the SSP system, the goals of NPS are much greater. NPS provides officers with the required fundamental skills to succeed in all aspects of their military career and in the civilian sector. In addition to providing such relevant education, additional key responsibilities are to implement the Navy’s GEPs, act as academic coordinator, and maintain approved curricula. The NPS president must also verify that conferred degrees meet the education requirements in accordance with the SSP system (Department of the Navy, 1991).

As an important key stakeholder, the NPS President must supervise all officers enrolled in a funded GEP at CIVINS and DOD institutions through the

designated reporting and administrative senior officers. This includes education plan approval, major field of study changes, and student load projections. NPS also coordinates with SSP subject matter experts on matters relating to field trips or experience tours, curricula development, and graduate thesis topics (Department of the Navy, 2006). Such level of coordination and supervision ensures that individual officers and other key stakeholders fully embrace the GEP.

5. Commander, NETC

The Commander of NETC serves as GEV program policy waiver and program withdrawal authority. The Commander also “provides oversight for GEV program execution and applies continuous process improvement methods to ensure the continued efficiency and applicability of the program to the Navy's mission” (Department of the Navy, 2006).

6. Commander, NPDC

The Commander of NPDC is responsible for providing information to interested GEV applicants and for ensuring that selected officers are enrolled in courses that are a part of their approved education program. The Commander of NPDC also issues GEV authorization documents to participants (Department of the Navy, 2006).

7. Commanding Officer, NETPDTC

The Commanding Officer of NETPDTC must ensure that curricula approval requests are complete, and forward these requests to NPS. NETPDTC must also notify program applicants of EPs that do not meet GEV quota areas of study and implement procedures to manage and administer the GEV program. This includes maintaining EPs and academic transcripts for all participants and monitoring academic performance for continued GEV participation. In monitoring such performance, NETPDTC provides a quarterly performance metrics report to Naval Education and Training Command (Department of the Navy, 2006).

8. Commanding Officers (COs)

COs deal with individual officers on a daily basis, and they are best suited to identify officers who have demonstrated superior performance. As a portion of overall professional military development, COs can best advise junior officers regarding the value of graduate education and encourage them to pursue graduate studies.

9. Individual Officers

Individual officers are the principal recipients and most immediate beneficiaries of graduate education. Consequently, these officers are affected most directly by the GEP policies, process, and outcomes. Obviously, the stakes will differ for individual officers based on the type of program in which they participate. Individual officers wishing to participate in a fully-funded program at NPS must ensure their Officer Data Card accurately reflects GEP preferences. This will send a message to detailers that the officer is very much interested in the program. Officers with a strong academic background tend to have a better Academic Profile Code (APC). Although a low APC is not an automatic disqualification, officers with a higher APC have more options in program choices. Moreover, officers with a less-than-stellar academic background may strengthen their record by enrolling in refresher courses and increase their grade point average prior to submitting an application (Department of the Navy, 1991).

C. CHAPTER SUMMARY

Individual officers are a prominent part of the stakeholder's map, since these officers are the primary customer. The desired output is to ensure that officers are selecting the right program, one that will benefit them as well as the Navy. Ideally, the GEP process can satisfy all of the stakeholders; yet, it is fair to assume that, if the program meets the needs of individual officers and Navy requirements alike, key stakeholders in the Navy should be pleased. The next chapter compares the Navy's fully-funded GEPs with those that are partially-funded.

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IV. GEP: FULLY-FUNDED AND PARTIALLY-FUNDED

Identifying the Navy's Graduate Education Program (GEP) process required researching various Department of Defense (DoD) and U.S. Navy instructions. This also includes reviewing previous military and civilian studies regarding the effect of graduate education on the individual officer and the Navy. In this pursuit, specific characteristics of the GEP process were identified and analyzed qualitatively.

Department of Defense (DoD) Directive 1322.10 outlines the Navy's requirement for officers with graduate-level education. It provides guidance on the selection procedure, service commitment, and utilization of officers who participate (Department of Defense, 2008). As stated in this directive, graduate education benefits both the military and the individual by encouraging higher levels of expert knowledge and practical ability. This provides incentives for recruitment and retention of personnel with the talent, the commitment, and the aptitude for growth, while recognizing the educational aspirations of individuals (Department of Defense, 2008).

In the Navy, community managers and program managers may disagree on how GEP should be managed. These differences can be categorized by the same three major areas addressed in DoD instruction 1322.10. The three major areas include selection procedure, service obligation, and officer utilization. This chapter analyzes fully-funded and partially-funded GEPs in terms of these three areas and the benefits associated with each program. Table 3 is a visual representation of elements associated with a 24-month GEP. The fully-funded program provides a maximum benefit to individual officers, whereas partially-funded program benefits are less. Additionally, as seen in Table 3, the service obligation for participating in either the fully-funded program or the partially-funded program is the same.

Table 3. A 24 Month Notional Navy Graduate Education Program Matrix
(After Department of the Navy, 1991)

GEP	Receive SSP	Service Obligation	Cost to Officer	In-Residence	Required Payback Tour
Fully-Funded	Yes	3 Years	None	Yes	Yes
Partially-Funded	Maybe	3 Years	Some	No	Yes
Non-Funded	Limited	None	All	No	No

A. FULLY-FUNDED

The Navy's primary goal in providing graduate education is to educate its officer corps to fill subspecialty (SSP) billets, better known as P-Coded billets. Officers are able to obtain a P-Code through the acquisition of a Master's degree in a Navy-specific field of training. (Table 2 in Chapter II provides the definitions of the Navy's SSP suffix codes.) Upon completion of a Master's program, officers are awarded a P-Code, a non-proven suffix code. Officers have the option to pursue fully-funded graduate education at the Naval Postgraduate School (NPS), at selected DoD institutions, or approved civilian institutions (CIVINS). However, the present study of fully-funded options focuses primarily on officers attending NPS. Under the fully-funded program, officers attend school full-time, receive all pay and allowances, and pay no tuition.

1. Selection Procedure

Selection for the Navy's fully-funded GEP is based on outstanding professional performance, promotion potential, and a strong academic background. In this case, a significant amount of junior officers is eligible for fully-funded GEP based on promotion potential and academic background alone. As delineated by DoD, the basic educational requirement to become an officer is a four-year college degree from an accredited institution. Moreover, not

considering college rankings, this research assumes that the majority of Naval officers have the minimum grade point average and the ability to enroll in a fully-funded program. As far as promotion potential, the opportunity to advance from O1 to O2, and O2 to O3, is 100 percent, given officers are fully-qualified (NAVADMIN 033/02, 2002). From community briefs, the opportunity to advance from O3 to O4 is also significantly high, at 80 percent, given there are no administrative, medical, or legal constraints. Normally, officers interested in the fully-funded program should contact their assignment officers to determine their professional qualification status. Formally or informally, assignment officers, will in turn, conduct an administrative screening to determine: 1) if the community has a quota requirement; 2) if that officer has the educational background to successfully complete a program at NPS; and 3) whether the officer has potential for promotion within the community. Upon determination of academic qualification, officers are then selected for assignment to a GEP. Each curriculum at NPS has a specified threshold Academic Profile Code (APC) for admission. A list of APC requirements is contained in Appendix A.

2. Obligated Service

Active duty officers participating in Navy fully-funded GEP will incur an active duty obligation of three years after completion of, or withdrawal from, education (Department of the Navy, 1991). This service obligation commences upon completion or withdrawal from the GEP. Throughout the fleet, this obligation is known as a “payback” tour because it is simply a way for the Navy to recover its investment. It is often difficult for the Navy to enforce this payback tour because officers need to work in “career milestone” tours that are associated with certain communities. For instance, many Surface Warfare Officers (SWOs) are enrolled in the Manpower Systems Analysis curriculum at NPS, and these officers may not be afforded the opportunity to complete a payback tour until they complete their second department head (DH) tour, which is four to five years from graduation. Consequently, the earlier an officer is able to fill a SSP-coded billet, the earlier he or she will be awarded a proven suffix code, such as Q, M, C,

and F. That is, given the officer committed the material to his or her long-term memory. With a three-year obligated service, the officer may complete the DH tours and leave the Navy without ever completing the SSP requirement. It is in the Navy's best interest to serve a payback tour as soon as possible. This obligation is also performed concurrently with any other service obligation. Once again, the Navy will not have the opportunity to recoup on its investments with this obligation. It comes down to making the decision between conducting a career milestone tour versus a "payback" tour.

3. Utilization

Officers who have received fully-funded graduate education are required to complete at least one tour in a SSP-coded billet with three years of graduation. Officers may also serve in as many subsequent tours in a validated position as possible (Department of the Navy, 1991). Both DoD Directive 1322.10 and OPNAVINST 1520.23B provide flexibility in that utilization can be deferred to the subsequent tour following completion of graduate education. As discussed earlier, placing officers into SSP billets within the specific guideline is extremely difficult for the Navy. Community milestone requirements often conflict with graded policy metrics. This difficulty is due to the fact that Navy Personnel Command is able to provide waivers to this policy so not to "preclude key operational tours essential to warfare qualifications" (MILPERSMAN 1301/900, 2005). Timing, career milestone, and billet availabilities are some of the primary reasons for such flexibility. Figure 5 provides a historical summary of the Navy's utilization rates from September 2008 through September 2011. With the exception of the Restricted Line community, all other communities had a utilization rate that was below the 70 percent level as of September 2011.

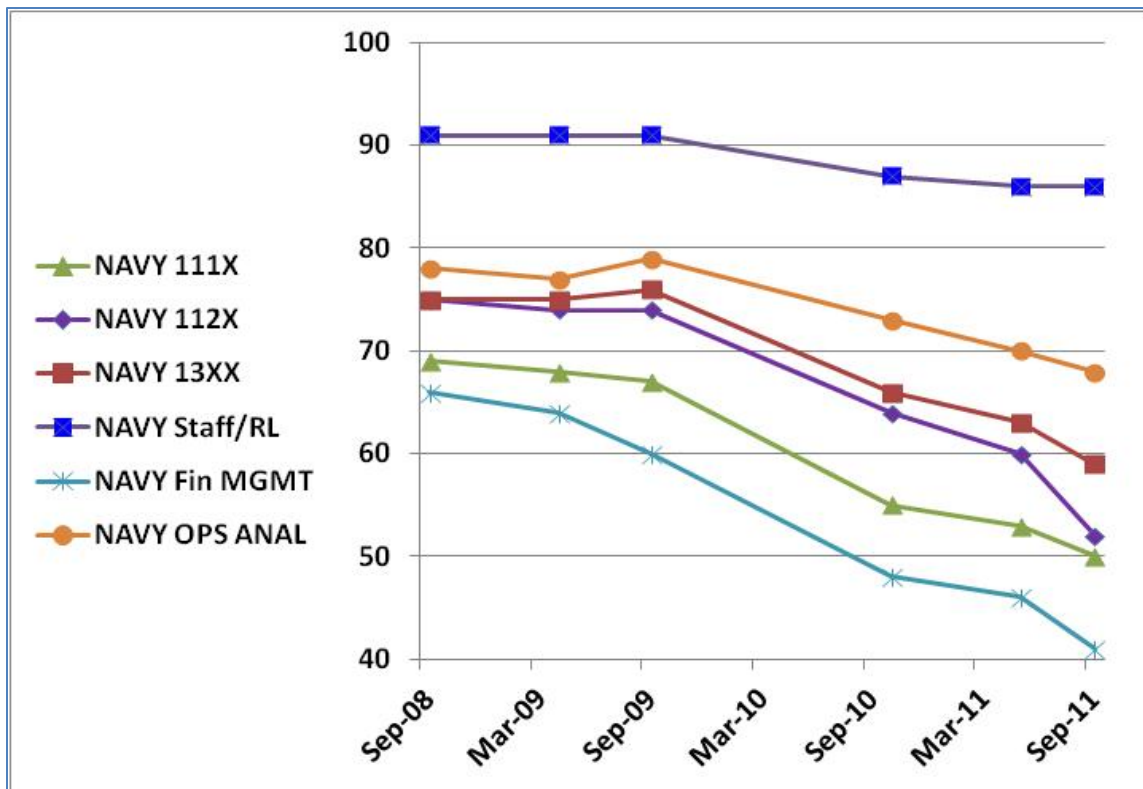


Figure 5. SSP utilization rates, September 2008–September 2011 (From Navy Personnel Command–Pers-45E)

B. PARTIALLY-FUNDED

As outlined in OPNAVINST 1520.23B, a GEP is considered partially-funded if it is 26 weeks or greater in length and the officer receives full pay and allowances (Department of the Navy, 1991). This discussion of partially-funded options focuses on the Graduate Education Voucher (GEV) program and the Distance Learning (DL) program at NPS.

GEV was established to provide increased opportunities and incentives for selected Unrestricted Line (URL) officers who might wish to obtain a graduate degree during off-duty hours. It is the officer's responsibility to be accepted by an accredited college or university. Under GEV, officers must pay any additional cost of tuition, fees, and textbooks. They may use their in-service veteran's benefits to help defray the additional costs that are not covered. While enrolled in a partially-funded program, officers receive their full pay and allowances.

As previously observed, DL has become widely popular in the civilian sector and even more popular in the military. A major advantage of DL is that it minimizes job interference. It allows many officers to remain in operational billets while also pursuing a Master's degree. To deliver this education, NPS conducts interactive video-teleconference during normal working hours, which creates a sort of virtual in-residence program (Naval Postgraduate School, 2012). This helps to reduce costs and increase job productivity. The individual cost of participating in the DL program is significantly less than the GEV.

The Navy will only fund Master's degree programs that meet the requirements of at least one approved Navy SSP as verified by NPS. Navy's 115 GEV quotas for FY 2012 by community from NAVADMIN 270/11 are shown in Table 4.

Table 4. Navy's Graduate Education Voucher (GEV) Quotas by Community, FY 2012 (From Navy Personnel Command-Pers-45E)

Community	Number of Quotas
Aviation Officers	40
Submarine Officers	30
Surface Warfare Officers	40
Special Warfare /Special Operation Officers	5

1. Selection Procedure

In similar fashion to the fully-funded program, officers interested in GEV must submit a request to their detailer for program selection. Selection for the Navy's partially-funded GEP is also based on outstanding professional performance, promotion potential, and a strong academic background. Officers who consistently demonstrate superior performance and are currently, or will be, on shore duty are the primary candidates. Receiving a partially-funded quota is somewhat more difficult than the fully-funded program. In many instances, officers are required to take an entrance exam and the admission standards can

be extremely high, depending on the individual university. OPNAVINST 1520.37A provides policy, information, and procedural guidance for the GEV program. Once an officer is selected to participate in the GEV program, he or she has the option to attend any accredited institution recognized by DoD. Officers enrolled in the GEV program receive \$40,000 per degree, with a maximum of \$20,000 per fiscal year, and the approved program must be completed within 24 months (Department of the Navy, 2006). Officers whose GEP costs exceed either the annual fiscal year limit of \$20,000 or the total program limit of \$40,000 must fund the remainder of the expenses using their personal funds. According to the Department of Education, the average total price (to include tuition, fees, books, materials, and living expenses) for one year of full-time graduate education was \$34,600 in 2011 (U.S. Department of Education, 2011).

2. Obligated Service

Obligated service for officers attending partially-funded graduate programs is equal to those attending fully-funded graduate programs. Upon completion or termination of a partially-funded education program, officers will serve on active duty for a period of three-times the number of months of education completed during the first year of education, and afterward, one month for each additional month. Total service obligation incurred for participation in a single GEP shall not exceed 36 months (Department of the Navy, 1991). As stated previously, this is the same amount of time as the fully-funded program. In terms of equity, partially-funded officers must also cover the additional expenses using their personal funds. These officers are also working in a full-time billet.

3. Utilization

The Navy funds graduate education to meet SSP requirements to the fullest extent possible. Officers participating in a partially-funded program are also required to serve in a SSP-coded billet. NPC tracks the utilization rate of these officers and their utilization rate, as shown in Figure 5.

C. CHAPTER SUMMARY

Officers in the Navy have numerous avenues to obtain advanced education. The dilemma faced by many officers is deciding which program best fits their desired lifestyle and how it will affect their promotion opportunities. Attending a fully-funded program at NPS means that officers must spend a significant amount of time away from their actual work. At the same time, officers who are participating in a partially-funded program must be able to balance a workload, school, and often a family life.

V. PUTTING GEP IN PERSPECTIVE: ORGANIZATIONAL WINS AND LOSSES

Chapter II provides information on background, previous studies, and the Graduate Education Program (GEP) in its current state. Chapter III reviews the key stakeholders' responsibilities, while Chapter IV compares the Navy's fully-funded GEPs with those that are partially or non-funded. This chapter attempts to evaluate that information and identify aspects considered vital to changing the Navy's GEP. Additionally, this chapter reexamines questions raised at the start by looking at GEP from the standpoint of the stakeholders.

To simplify for the purpose of this chapter, stakeholders are divided into three groups: *Providers* (DoD and Navy); *Managers* (the Naval Postgraduate School [NPS] and Navy offices charged with managing GEPs); and *Recipients* (Individual Officers). Although all groups share in the overarching goal of GEP, maintaining a strong Navy, each group has its own, separate views and program objectives. The ultimate goal of GEP stakeholders is to strengthen the knowledge and leadership skills of officers, which in turn will help preserve the future of the Navy. Therefore, stakeholders, from individual officers to NPC, must ensure that their objectives are for the greater good of the Navy, regardless of winners and losers.

A. GEP OBJECTIVES

Graduate education has many objectives. In the world of academia, "graduate education provides advanced academic training and research specialization within a particular field of study to foster the development of scholars for careers in innovative research and teaching to benefit mankind" (UC Davis Graduate Council, 2005, p. 1). In the Navy, graduate education is a tool that increases officers' leadership skills and technical expertise to meet the Navy's needs in an era of increasing technological developments. In other words, it expands officers' level of knowledge and provides them with the

required tools to fulfill their military duties. Therefore, for the greater benefit of the Navy, all officers should be afforded the opportunity to participate in a GEP that focuses on specific Navy needs.

In most cases, officers join the Navy with a Bachelor's degree, and due to career milestones and timing, they may have a limited period to participate in advanced education. For example, the time to complete a Master's degree at the NPS is normally eighteen to twenty-four months. The length of time to finish degree requirements at a public institution may be longer or shorter, depending on the particular program, the officer's availability, and other factors.

The idea of providing graduate education to all officers, whether it is fully-funded or partially-funded, is clearly impractical, due to the direct costs associated with graduate school as well as to the immediate impact on operations. Consequently, the Navy must carefully manage the number of officers sent to graduate school so that shortages of officers do not occur in the fleet. The ultimate objective is to educate and retain the right mix of officers to achieve a more effective force.

The Navy understands the importance of higher education. Indeed, commissioned officers entering the Navy are required to have a four-year degree. Research shows that Navy officers with a Master's degree are promoted at a faster rate than their counterparts who do not possess a graduate degree (Cashman, 1994). At the same time, officers who receive timely promotions are more inclined to remain in the Navy for a full career, creating even more incentives for officers to earn a Master's degree, whether it is funded or not. Public pronouncements by the Navy's leaders repeatedly recognize that an officer's ability in critical thinking "will carry forward to the fleet and into our command, into our laboratories, into the field." In the end, "it's going to be what shapes our future" (Ferguson, 2012).

1. For Providers

In the framework of this thesis, the Department of Defense (DoD) and the U.S. Navy serve as the GEP provider. One of the Navy's primary objectives in providing graduate education is to develop a sufficient number of highly-skilled officers to meet billet requirements (Department of the Navy, 1991). In return for this advanced education, the Navy receives an additional service commitment, as it reduces replacement costs. For example, based on current policy, an officer who attends a fully-funded program at NPS for twenty-one months will incur a service commitment of 3.8 years after graduation. This is in accordance with OPNAVINST 1520.23B (1991), which states that officers must serve three years for the first year of education received and one month for each additional month of education received. The Navy is thus able to develop the sufficient number of officers to fill billets requiring advanced education, manage retention, and reduce education costs.

In providing this education, the Navy seeks to create a highly-trained and more effective work force through DODINST 1322.10 guidelines. A specific number of billets require graduate education, and the Navy must ensure that officers participating in its programs are supporting the organization's needs and not necessarily the needs of individual officers. The Navy is also hoping that, through graduate education, officers are able to develop critical-thinking skills that will enable them to become better decision makers and leaders.

As explained by Julie Filizetti (2003), the Navy is a subset of DoD and has its own compensation classification, rules governing profits and losses, personnel limitations, and a unique mission. Based on this system, the Navy's GEP can be said to resemble a state's economy in not only the social benefits that are created, but the economic benefits as well. According to Filizetti (2003, p.22), these benefits also include "health, citizenship, intellectual tolerance, and propensity for life-long learning." The economic value of graduate education is confirmed in a study by Bowman and Mehay (2004), which finds that officers with a graduate degree tend to stay in the Navy much longer than do their

counterparts without a graduate degree. In an economic sense, these officers remain employed by the Navy, which in turn keeps the officers from leaving the Navy and entering the job market. This reduces the number of personnel to compete for a number of jobs. As stated above, the outcome is a reduced replacement cost of recruiting and educating new officers.

One obvious way for the Navy to further reduce the cost of graduate education is through Distance Learning (DL). DL can significantly shorten the amount of time that an officer might spend in residence at a fully-funded program, thus cutting the opportunity cost for the Navy, since the officer can still perform his or her regular duties.

Fully-funded programs have billet restrictions and, as explained in Chapter II, the Navy recognizes that DL is fast-becoming a popular method of education because of its generally lower costs. Clearly, it is in the Navy's best interests to continue supporting DL. Moreover, according to OPNAVINST 1520.23B, participation in partially-funded and fully-funded GEP actually incurs the same service commitment, regardless of whether it is a resident or DL program. As previously observed, officers who attend NPS typically receive specific education designed to improve the officers' performance within an occupational community. The operating assumption here is that providing a quality education for officers can also reap rewards beyond individual or collective performance by enhancing morale and creating a strong bond of institutional allegiance. Officers who perform at their peak are officers who enjoy their service. They also have a strong sense of organizational commitment, and are more likely to feel fulfilled in their work. These positive benefits to both the individual and the organization are seen in the finding that officers who receive fully-funded graduate education are more inclined to remain in the Navy beyond the ten-year mark (Conzen, 1999).

2. For Managers

The Program Manager (PM) affects GEP by generating education requirements and establishing procedures to ensure the smooth operation of the

program. Many PMs at various levels are involved in the Navy's GEP, as discussed previously in Chapters II, III, and IV. This analysis focuses on just two PMs: NPS and NPC.

As noted above, the main objective of NPS is often stated in quite general terms: to provide graduate education to Navy and Marine Corps officers in the hope of increasing the combat effectiveness of the fleet (Department of the Navy, 2012). Although the school's role has expanded considerably within the nation's larger defense community over the past several decades, its primary objective under GEP is to offer specific Navy subspecialty (SSP) education not available at other universities. Consequently, NPS plays a significant role in the success of GEP, ensuring that the Educational Skill Requirements (ESRs) of its various specialized curricula meet the Navy's needs on a continuing and evolving basis. To guarantee the effectiveness and efficiency of GEP, NPS works closely with curricula sponsors during periodic reviews aimed at staying "current," relevant, and responsive to the Navy's needs.

NPS faculty members also play a major role in the success of GEP. These faculty members strive to see officers "undergo a transformation of identity, so that they leave the program ready to fill the role and status of academic professionals" (Egan, 1989, p. 200). Thus, NPS programs are accredited by the Western Association of Schools and Colleges (WASC), the Accrediting Board for Engineering and Technology (ABET), the National Association of Schools of Public Affairs and Administration (NASPAA), and the American Association of Collegiate Schools of Business (AACSB). The value of earning a Master's degree at NPS cannot be overstated. As noted by the WASC team visit during the 2011 NPS accreditation:

NPS has enhanced the groundwork for assessing student learning, which had been laid years ago by virtue of its mission and service to the U.S. Navy. The visiting team remarked that NPS was "a model for others" in mapping coursework to program learning outcomes, conducting and supporting rigorous and robust program and curriculum reviews, and utilizing direct measures of student learning to an increasing degree (Wolff, 2011).

As the “gatekeeper” of GEP, NPC’s role among PMs is obviously critical to the success of the program. Following the Navy’s objective to educate officers who can fill SSP billets, NPC must ensure that officers are placed in curricula that will meet this objective. Consequently, NPC attempts to select the best individual officers to participate in GEP as it also seeks to recoup the Navy’s educational investment through the officers’ required payback tours (as directed by OPNAVINST 1520.23B).

The Navy’s Detailers and Community Managers understand that graduate education is expensive. They also understand the importance of graduate education and its effects on promotion and retention. Thus, individual officers are advised to participate in GEP to remain competitive. Many officers who are not selected for Navy-funded options under GEP endeavor to earn a Master’s degree by utilizing their own funds and educational benefits through veteran’s assistance programs. As stated previously, the Navy cannot provide graduate education to every officer. The effectiveness of selecting and utilizing GEP participants, which is NPC’s responsibility, will ultimately determine whether the Navy receives the best return on its investment.

3. For Recipients

In today’s knowledge-based economy, a college education has become a necessity. At the same time, graduate education is fast ascending from being just “good to have” to being required for advancement or even for occupational entry. As the literature review for this study shows, earning a Master’s degree through the Navy can improve an officer’s performance as well as his or her chances for promotion and retention. Whether it is funded or not, officers enroll in GEP to become better educated, to increase their promotion opportunities, and to enhance their marketability in the civilian labor force after leaving the Navy. Individual officers weigh the advantages and disadvantages of participating in GEP. In a fully-funded program, officers attend NPS, receive Navy-specific education, and incur the appropriate service obligation based on the length of

their particular program. For a partially-funded program, officers receive the same service obligation; however, this education may not necessarily be specific or otherwise “unique” to the Navy. Officers who obtain a degree under an approved curriculum are able to fill various billets that are assigned to SSP codes, while officers who graduate from other educational programs may not have that opportunity.

Individual officers also understand the disadvantages of participating in a fully-funded program. Although graduate education is an important variable in determining one’s qualifications for promotion, being operational and meeting career milestones are just as important. It is customary for the Navy to focus on its need for specific skill sets. By focusing on these specific skill sets, the Navy ensures that officers who perform successfully in selected skills are being promoted at a higher rate. On the other hand, officers who are removed from an operational billet to pursue an advanced degree may later discover that the newly-obtained skill set is not Navy-critical or one that is highly-regarded in their Navy community. In the end, the officer’s opportunities for promotion and retention are actually diminished by having taken the time to obtain a graduate degree.

In the SECNAV’s 2012 promotion guidance, it clearly states that the promotion board members should select the “best and fully qualified” officers for promotion (Secretary of the Navy 2012). In this case, it sounds as though officers who earned their degrees while in operational billets are better off than their counterparts who removed themselves from the fleet to pursue a degree. In addition, does this mean that officers who are not career-oriented will instead choose to participate in a fully-funded program? In other words, are some officers simply using the fully-funded GEP to take a break from the fleet or to prepare themselves for an early exit from the Navy? In the end, GEP participants certainly understand that graduate education not only provides better opportunities while in the Navy, it also increases their potential for employability outside of the Navy.

B. IS GEP ACHIEVING ITS OBJECTIVES?

In several Navy communities, participating in a fully-funded GEP is viewed by officers as being “career neutral.” That is, a graduate degree is a “good thing” to have, because it strengthens one’s resume; yet, the time spent pursuing the degree is essentially “lost time” spent away from one’s career. Consequently, earning a Master’s degree is a great accomplishment; however, officers should remain in operational billets.

In negotiating with detailers, individual officers must determine the most opportune time to participate in a program that removes them from an operational billet for twelve months or longer. The pressures to stay in an operational billet can become even stronger when the Navy is heavily engaged in a conflict that places increasing demands on the fleet. As much as graduate education benefits individual officers and the Navy over the long term, in the shorter term, especially during periods of demand on manpower and other resources, graduate education can be viewed by some as a luxury. It is during these times that Providers, Managers, and Recipients alike face the greatest challenges in seeing that GEP meets its objectives.

1. For Providers

Generally, it can be said that GEP is meeting its objectives for the Navy. On average, NPS provides the Navy with approximately 450 new graduates each year (Naval Postgraduate School, 2012). These 450 officers have now earned a SSP code and are available to fill P-coded billets.

Although the Navy is meeting its objectives in educating its officers to fill SSP billets, officer utilization has been declining over the past few years. As seen in Figure 5 (Chapter IV), the Restricted Line community is the only officer community with SSP utilization rate above 70 percent as of September 2011. Indeed, the SSP utilization rate for officers in one community (Financial Management) was just over 40 percent at the end of fiscal year 2011.

Graduate education, especially DL, has grown significantly over the past twenty years. For many, DL has surpassed the traditional classroom setting as the preferred method of instruction. The Navy and the officer corps have likewise embraced this phenomenon. In 2011, more than 900 students were enrolled in the NPS DL program (Naval Postgraduate School, 2012). The popularity of DL owes to the understanding that a degree earned through distance education can be similarly rewarding as one earned through a residence program, at least with respect to certain career opportunities and educational advancement. Proponents of more traditional methods of instruction would argue that an important part of graduate education is lost when replacing resident education with DL, and that the trade-off sacrifices a degree of depth in personal interaction between students and their teachers.

According to Egan (1989), once a person's knowledge and skills in a specific field become outdated, it becomes extremely difficult to stay in touch with advancements without following up and pursuing an advanced degree. Additionally, it is difficult to compete in most academic fields without some sort of education beyond the baccalaureate level, and the Navy recognizes that. Extending the educational level of officers can give these individuals peace of mind in knowing that they are "keeping up" with their peers in the civilian labor market while learning of advancements in the theories, concepts, and practices of their chosen field.

As discussed previously, replacement costs and officer retention play an important role in the Navy providing graduate education. The majority of officers participate in a fully-funded GEP around the four-to five-year mark of time-in-service. These officers incur a service obligation, which is normally around three years, depending on the length of the educational program. Based on these numbers, by the time officers complete both their graduate education and service obligation, they will normally have around ten years of service completed. (This

does not include officers who may have accrued some years of service in the enlisted force before being commissioned.) Thus, graduate education is said to meet its objectives for providers.

2. For Managers

For more than a century, NPS has been providing relevant graduate education to Navy officers, DoD civilians, officers from other services, and persons from the international defense community. With a graduation rate above ninety percent, NPS is definitely meeting its objectives (Naval Postgraduate School, 2012). NPS curricula are uniquely designed to meet the Navy's SSP requirements. After graduating NPS, officers take their SSP codes to the fleet and perform with great success. For example, the Manpower Systems Analysis curriculum focuses on multivariate and analytical methods that are atypical to the Navy. In addition, students are also able to complete professional military education phase one during their time at NPS. This is a "win-win" situation for the Navy. Upon returning to the fleet, the Navy is gaining officers who have an initial background in Joint Military Operations and are well educated in their SSP area.

3. For Recipients

Officers enroll in graduate school for various reasons. Most of these reasons have been examined previously (Cashman, 1994). High among the motivations for pursuing a graduate degree stems from the fact that many billets are tied up with certain SSP codes. For officers to obtain such SSP codes, they must obtain a Master's degree (Department of the Navy, 2010). Earning a Master's degree thus opens up a wider list of opportunities and the chance to serve at some of the more desirable commands in the Navy. In a survey of officers who have had graduate education, it was found that more than 90 percent believed that obtaining a Master's degree would make them a more effective leader (Cashman, 1994). Further, based on human capital theory, an individual's productivity and earnings tend to increase with each additional level

of education. In 2010, the average non-high school graduate earned \$19,600 after taxes; persons with a Master's degree earned \$51,100 (U.S. Department of Education, 2011).

Results from the Human Resource Officer 2012 active duty Lieutenant Commander's selection board show that 24 officers were selected for promotion. Eighty-eight percent of selected officers had a Master's degree, while only 17 percent of the selected officers had a proven SSP code (Navy Personnel Command, 2011). This suggests that officers are earning a Master's degree on their own time, or that this particular group of officers has a low utilization rate. This could also indicate that officers are driven to earn their Master's degree because of what they see as improved promotion opportunities, and they may not necessarily be looking to receive Navy-funded graduate education.

Some in the Navy might argue that an officer does not necessarily need graduate education to be a good leader or top performer in a "service-unique" occupation. On the other hand, those who extol the virtues of graduate education might point to a study conducted by Powers and Enright (1986), suggesting that graduate education enhances reasoning skills, constructing hypotheses, analyzing arguments, and drawing conclusions. All factors considered, one could argue strongly that GEP is achieving its objectives for recipients.

C. GEP: TRADE-OFFS

Mankiw (2004) defines "trade-offs" as opportunity cost, or the choice to give up one item to obtain another (Mankiw, 2004). Most trade-offs are not all-or-nothing decisions; rather, they typically involve a little more of "this" at the cost of a little less of "that." In the Navy GEP, Providers, Managers, and Recipients also deal with these trade-offs, although they obviously have a different view of their own opportunity costs.

1. For Providers

As previously described, the Navy provides fully-funded graduate education at NPS where officers are able to receive specific course work that is not otherwise available at a public university. For example, a graduate program such as Undersea Warfare (UW) is quite specific to the Navy. For the Navy to maintain a high level of efficiency in UW, it must continue to offer this specific education to its officers. However, the Navy also suffers a substantial opportunity cost by removing the officer from the fleet. Assuming officers remain in service for 10 years or more, the Navy must provide graduate-level UW education to officers around the two- to three-year mark of time-in-service to recoup its investment. By the time officers complete this education, they will have at least five- to six-years of service prior to reaching the ten-year mark. The trade-off here is that officers are allowed time away from the fleet to participate in a fully-funded program; in return, the Navy receives a well-educated officer in UW. This could be seen as a way of retaining officers through payback tours and, more generally, by offering better opportunities for career advancement.

In providing partially-funded graduate education, the Navy accepts a calculated trade-off. The possibility exists that officers are participating in partially-funded GEP to expand their personal level of knowledge and marketability and are not primarily interested in earning a degree that would benefit the Navy per se. Nevertheless, the Navy is gaining an officer who will be highly educated and possess the level of knowledge required to fulfill his or her assigned military duties. Clearly, the Navy also understands the personal benefits that accompany a Master's degree. By allowing officers to earn a Master's degree, the Navy is likely increasing an officer's level of motivation and organizational commitment. Although such motivation and commitment are difficult to pinpoint, it seems reasonable to suggest that these and other very positive effects of performance can result from a Navy-funded Master's degree. Officers do understand that they have better promotion opportunities and are

more likely to stay in the Navy. Consequently, one can argue that the Navy-provided benefits of GEP can have a direct and positive impact on productivity that are in the best interests of the Navy and individual officer alike.

2. For Managers

Since Managers are “hired” by Providers to manage the GEP, the trade-offs are interrelated, especially in the case of NPC. In terms of trade-offs, NPS is about value-added. It is about the social relationships that officers develop at NPS and the relevancy of its curriculum. It is also about the opportunity for officers to move away from a fleet-concentrated area as they come to study in Monterey, California. As Mauz and Gates (2000) state in the *Proceedings*, public universities that offer graduate education simply cannot meet the level of uniqueness offered by NPS. For example, unlike many DL and other graduate programs, NPS requires a capstone project to complete a Master’s degree program. Although dreaded by many graduate students, this characteristic raises NPS to a top-tier among institutions of higher education. As studies have shown, NPS graduates stay in the Navy longer and are more likely to advance to Pay Grade O-4 than are their counterparts without a graduate degree (Branigan, 2001).

3. For Recipients

Individual officers are inclined to participate in fully-funded GEP partly because of the amount of money saved and the anticipated greater return on their investment. The cost of a graduate degree is certainly a consideration. Moreover, what better way to study and obtain an advanced degree than to do so without worrying about the cost of tuition, while receiving one’s regular pay? For the recipient, it is not only a “free education”; it is a free education where the school’s sponsor additionally pays the student to attend.

Attending NPS is also a sort of “sabbatical” for officers, where they can free their mind of job responsibilities and “recharge their battery.” Although these are extremely important benefits, officers do incur a substantial opportunity cost

in the loss of experience and knowledge from being operational. In some communities, officers who are enrolled in a fully-funded program are accepting a calculated risk by taking two years of non-observed evaluation or fitness report. For officers in the pay grade of O-4, this is an even bigger risk. Officers who report to NPS at this point in their career will normally be in-zone for promotion to pay grade O-5 within one to two years after graduation. These officers may only have one or two fitness reports and will be competing against peers who have been performing operationally for more than four years and have the fitness reports to support it. Officers at NPS receive non-observed fitness reports, which can thus become a liability during promotion.

There is also the aspect of a payback tour. From an individual officer's perspective, the payback tour may be seen in a more negative way, as a trade-off for receiving a fully-funded graduate education. At the same time, however, the individual officer is looking ahead and seeing that an advanced degree would improve one's "marketability" in the civilian labor force after retirement. This is another "win-win" situation for individual officers. By taking the calculated risk of not being selected for promotion, an officer has now created a back-up plan because of the increased marketability. In this way, an advanced degree, while assisting the Navy's objective for officer retention in the short term, can actually become an incentive for officers to separate at the earliest possible time.

Officers who participate in the partially-funded program have the same goals as do officers in the fully-funded program. They are seeking better promotion opportunities and increasing their value in the civilian sector. Some may argue that partially-funded officers may have more opportunities in the civilian sector because they are able to enroll in some of the top Master's programs throughout the country. In addition, the opportunity to reside in one's desired community is a major advantage of the partially-funded program. The major differences are the lack of interaction with other officers from the different services and the international community, and the unavailability of certain Navy-specific education.

D. IS THE GEP POLICY OUTDATED?

This thesis sets to determine if the Navy's GEP should be modified to bring it more in line with today's environment. Obviously, the delivery of graduate education has changed significantly over the past twenty years, since the inception of OPNAVINST 1520.23B in 1991. Although the guidance of this policy is still useful in today's environment, other aspects such as SSP utilization and service obligation should be modified so that stakeholders can make better decisions in managing and executing GEP. Additionally, DL should be included in the instruction to ensure that individual officers are able to understand the trade-offs when participating in GEP.

Yearly, the Navy sends a large number of officers to graduate school to obtain SSP skills. In return for this education, officers are required to complete a payback tour where their newly-acquired knowledge can be utilized. Many officers attend graduate school because of the level of education that accompanies a Master's degree. Among this large group of officers, a significant number attend graduate school because of the many personal and career benefits that accompany a Master's degree. Thus, many officers are enrolling in Navy-funded GEP and earning a SSP; however, many of these same officers are not afforded the opportunity to complete their payback tour. This is due mostly to the timing of an officer's career milestones or even the availability of appropriate billets. Additionally, MILPERSMAN 1301/900 allows waivers to this policy, so not to "preclude key operational tours essential to warfare qualifications" (MILPERSMAN 1301/900, 2005). This in turn creates a relatively low and declining utilization rate, as seen in Figure 5 (Chapter IV). To alleviate this problem, the Navy should ensure that officers are slated to a specific payback billet prior to reporting to graduate school. The cost of a graduate school billet imposes a considerable financial burden to the Navy. As long as the Navy Personnel Command continues to provide waivers, the GEP will continue to struggle with utilization rates.

According to OPNAVINST 1520.23B, the contractual service obligation of participating in a fully-funded GEP must be equal to a period of three times the length of the school attended through the first year and one month for each month thereafter (Department of the Navy, 1991). This contractual obligation is also the same for officers who participate in a partially-funded program. However, with the fully-funded program, officers attend school full time and perform other military duties as required. With the partially-funded program, officers hold a full-time position while in school.

From an equity perspective, a partially-funded obligation needs revision to reflect its burden to the individual officer. The Navy's opportunity cost of providing partially-funded versus fully-funded graduate education is significantly less and it should be reflected as such. Obviously, a partially-funded education is a relatively major cost-saving investment for the Navy. As previously observed, officers who participate in fully-funded GEP are more likely to remain in the Navy until they are eligible for retirement. This could be because their time-in-service clock is still running (just as it is for officers in partially-funded GEP) but they additionally are able to take some "down time" from the fleet. With that said, these officers would likely have far less incentive to participate in a program that would save the Navy money and eliminate their time away from the fleet.

Individual officers have very little opportunity costs by participating in a fully-funded program because they still receive their full military salary and obtain education that should enhance their future earnings within the Navy as well in the civilian sector. One can argue that not being able to enter the civilian job market immediately after graduation is an opportunity cost of sorts; yet, previous research shows that most officers who participate in a fully-funded program have longer service time than officers who did not participate in advanced education (Kahraman, 2007). The service obligation does not encourage officers to participate in the partially-funded program. Officers participate in partially-funded GEP because of the better opportunity for

promotion and being more marketable outside of the Navy. To bring the service obligation more in line with today's environment, the Navy needs to modify the service obligation policy by creating an equitable payback formula. This would mean modifying the present GEP policy to include a service obligation based on the type of GEP provided to individual officers.

One of the major changes that has occurred in the availability, approach, and delivery of graduate education is DL. NPS offers many graduate degrees through DL, as shown in Appendix A. An example is the NPS Executive Master of Business Administration (EMBA) DL Degree Program. Employers look very favorably toward students who have the discipline to manage their own schedule and work simultaneously. Currently, DL programs are not included in OPNAVINST 1520.23B. The NPS EMBA DL Degree Program is an extremely popular program that allows officers to participate from their current duty stations while also conducting their normal military duties. Again, officers who participate in the DL program have a service obligation similar to those who participate in a fully-funded program. From an equity perspective alone, the policy needs to be reexamined.

E. CHAPTER SUMMARY

As a primary stakeholder, individual officers have numerous opportunities to participate in GEP. The trade-offs between partially-funded and fully-funded programs likely play an important role in the officers' decisions regarding which program best fits their career. For a typical Surface Warfare Officer (SWO), the first opportunity to participate in a funded GEP is during the first shore tour, around the four-year point in service. The second opportunity falls after the department head (DH) tour is completed, around the ten-year mark. During the first shore tour, many officers decide to take tours in certain geographical areas and enroll in local universities or DL programs instead of coming to NPS. As previously noted, many SWOs who decide to enroll in a fully-funded GEP at NPS may never have the opportunity to perform a payback tour because of the many

career milestones such as DH and the limited availability of appropriate billets. Many SWOs thus participate in fully-funded GEP knowing that the likelihood of conducting a payback tour is remote.

VI. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The highly skilled, creative workforce of tomorrow is developed through our graduate programs. Graduate students become our scientists, researchers, experts, and innovators in a wide variety of fields. Graduate programs are where they acquire innovative research and leadership skills. (Council of Graduate Schools, 2007, p. 28)

Ultimately, the Navy's goal in providing graduate education is to enhance the technical knowledge and leadership skills of officers to maintain a strong Navy. As the Department of Defense (DoD) and military services continue to face diminishing resources and a major emphasis on cost savings, it is vital for the Navy to effectively manage its Graduate Education Program (GEP). Many stakeholders throughout the organization recognize the importance of graduate education. The process of attaining a Master's degree prepares officers to make better decisions, become more technically sound, and help lead the Navy into the future. Additionally, it prepares officers to deal with difficult problems and enables them to serve with poise in challenging environments.

A. SUMMARY

The present study examines the Navy's GEP policy in today's environment and provides recommendations that support current workforce requirements and resource constraints. First, the study reviews selected publications, which reveal that graduate education has a positive effect on officer performance, promotion opportunities, and continued service in the Navy. Second, utilizing the "Contrasting Model of the Corporation" theory developed by Donaldson and Preston (1995), the study identifies key stakeholders' responsibilities within the GEP process. Ideally, the desired output is to ensure that individual officers are matched with the right GEP that meets career goal and Navy work requirements. Next, the study compares fully-funded and partially-funded programs and then attempts to examine GEP from the perspective of

Providers (DoD and Navy), Managers (the Naval Postgraduate School [NPS] and Navy offices charged with managing GEPs), and Recipients (individual officers).

The Navy's GEP policy is outlined in OPNAVINST 1520.23B. Each year, under this policy, the Navy sends officers to graduate school to obtain subspecialty (SSP) skills. Thus, officers achieve a level of education that is immensely valuable to both the officer and the Navy. The cost of a graduate school billet, coupled with the cost of the schooling itself, is a considerable financial investment for the Navy. These factors underscore the importance in properly managing and executing the Navy's GEP.

Officers who participate in GEP are "fully-funded" if they attend graduate school full-time for 26 or more weeks. A fully-funded Navy program provides full pay and allowances for the duration of the program of study plus all tuition costs. For a "partially-funded" program, the Navy generally only provides pay and allowances, and the individual or an organization other than the Navy pays the tuition (Department of Defense, 2008). The majority of fully-funded GEPs can be found at NPS, other services' institutions, such as the Air Force Institute of Technology, or at a DoD-approved civilian institution.

An officer's service obligation (the so-called "payback" tour) for participating in a fully-funded GEP must equal a period of three-times the length of the school attended through the first year and one month for each month thereafter (Department of the Navy, 1991). In accordance with OPNAVINST 1520.23B, the obligation of serving in a validated SSP billet needs to be fulfilled within two tours after completing a funded GEP. "Utilization" occurs once this is accomplished.

Officers who attend a DoD-approved civilian institution through the partially-funded option receive full pay and allowances with a portion of tuition costs and fees paid by the officer. While participating in a partially-funded GEP, officers attend school and perform their normal military duties (Department of Defense, 2008). The present study examines NPS Distance Learning (DL) as a

partially-funded program. Currently, DL programs are not addressed in OPNAVINST 1520.23B. The service obligation and SSP tour requirements are the same for DL as they are for a fully-funded program.

The Navy provides graduate education to support work requirements identified by specific SSP skills. Yet, fully-funded programs can have a steep opportunity cost for the organization as well as for the individual. For example, officers who participate in a fully-funded program are generally removed from the work force for eighteen to twenty-four months or longer. Thus, these officers are essentially “lost” to the organization and operational command for at least the extent of their time in school. Removal from the operational force can also be detrimental to the career of an officer in certain communities. Nevertheless, research shows that officers participating in fully-funded graduate education generally have improved opportunities for promotion and are more likely to remain in the Navy through a twenty-year career (Kahraman, 2007).

Officers participating in a partially-funded program continue to perform in operational billets and incur a similar service obligation, as do their counterparts in a fully-funded program. Clearly, the Navy’s opportunity cost is significantly less under partially-funded programs. Officers participating in a partially-funded program understand that an advanced degree can increase their opportunities in the Navy as well as in the civilian job market once retired. Thus, many officers take every opportunity to participate in the program. However, from an individual officer’s perspective, the payback tour may carry a significant opportunity cost, since it could delay the officer’s entrance into the civilian job market. As seen here, the potential costs and benefits for the Navy and the individual officer can vary substantially from one program to another, from one person to another, and across the Navy’s communities.

Since the costs, benefits, and trade-offs related to the Navy’s GEP can be perceived so differently within the organization, it is useful to examine GEP from the viewpoint of its stakeholders. As managers of GEP, Navy Personnel Command (NPC) and NPS must ensure that the Navy’s Educational Skill

Requirements (ESRs) are meeting the notional work requirements of Navy operational tours. At the same time, faculty members and administrators at NPS have the primary responsibility for designing and delivering curricula that support the ESRs and enable officers to reenter the fleet as knowledgeable leaders in their field. NPC then follows through on seeing that each officer fulfills his or her service obligation and that utilization requirements are met in accordance with OPNAVINST 1520.23B.

Utilization is a key factor in making the process work to the benefit of both officers (recipients) and the Navy. An officer's career can be enhanced when given the opportunity to apply the newly-obtained graduate education in the operational workforce. In the same way, the Navy is rewarded by having the advanced education applied most usefully within the fleet, as the organization reaps a tangible return on its investment. Consequently, the success of GEP relies on individual officers participating in a funded GEP program with the intention of fulfilling the associated service obligation and utilization requirement. The problem is that, for most Navy communities, SSP utilization, as currently defined, remains relatively low. Utilization declined considerably from fiscal years 2010 through 2011. Moreover, at least one officer community has seen SSP utilization fall by over 20-percentage points (see Figure 5 in Chapter IV).

B. CONCLUSIONS

Graduate education is an important aspect of intellectual growth for officers in the military, and they should be given the opportunity to participate in some sort of GEP, whether partially-funded or fully-funded. Older research shows that persons with a Master's degree tend to be rated higher in administrative skills, intellectual ability, advancement motivation, work involvement, and general effectiveness when compared with their counterparts who do not possess a graduate degree (Howard, 1986).

The primary objective of the study was to evaluate current GEP policy, established initially over two decades ago, and to determine if it is still in line with

today's environment. The overriding conclusion of the study is that the Navy's GEP policy, as outlined in OPNAVINST 1520.23B, is outdated and should be reevaluated to meet the dynamics of the changing workforce and achieve its expected results.

Six major conclusions are drawn from this research.

1. Fully-Funded Graduate Education is a “Win-Win” for Individual Officers and the Navy

GEP has apparently been operating quite well for decades. Naval officers who attend fully-funded graduate education at NPS learn skill sets that are specific to the Navy. Additionally, graduate education expands an officer's leadership skills and technical expertise. According to the Office of Institutional Research at NPS, since 2000, nearly 5,000 Navy officers have received a fully-funded Master's degree. Officers who complete a fully-funded program generally have better opportunities than do other officers to obtain Navy-critical SSP skills. This clearly supports the claim by Mauz and Gates (2000) that NPS provides a unique Naval and defense environment for learning.

Officers with a Master's degree generally have better opportunities for promotion than do their counterparts without a graduate degree, and they tend to remain longer in the Navy. As illustrated in the Human Resource Officer 2012 active duty Lieutenant Commander's selection board, 24 officers were selected for promotion. Out of these 24 officers, 88 percent had a Master's degree (Navy Personnel Command, 2011). This level of reward for officers with a graduate degree has occurred over many decades. For example, a study by Garcia et al. (1998) found that participating in a fully-funded GEP significantly increased an officer's promotion probability, which in turn increased the officer's likelihood of having a longer military career. Additionally, other studies have shown that the promotion rates of officers with a Master's degree are higher than the promotion rates of officers without any degree (see, for example, Mehay & Bowman, 2004).

Graduate education provides a net benefit to the Navy's retention of qualified officers. When comparing officers with and without a Master's degree, Branigan (2001) found that officers with an NPS (fully-funded) degree were 15 percent and 12 percent more likely than those without a degree of being promoted and retained, respectively. In the end, officers who participate in a fully-funded GEP tend to remain in the Navy significantly longer, providing the Navy with a valuable return on its investment in graduate education.

2. A Reduced Service Obligation would Likely Promote Increased Participation in Partially-Funded GEP

Officers who participate in a partially-funded program have the same service obligation as do officers who participate in a fully-funded program. From the standpoint of equity, officers participating in partially-funded GEP have the responsibility of a full-time military job and must utilize off-duty hours to complete assignments. Additionally, they must cover the difference in their educational expenses with personal funds or their in-service veteran's benefits. Using veteran's benefits at this time means that individual officers would not be able to transfer the benefits later to immediate family members (Department of Veterans Affairs, 2011). On the other hand, officers who participate in a fully-funded educational program are able to focus on school without the requirements and responsibilities associated with an operational billet. According to DesJardin and Kohmuench (2001), this seeming inequity in service obligation may actually encourage officers to participate more in fully-funded programs and less in partially-funded programs.

3. Participating in Fully-funded GEP has Certain Disadvantages

Although having a Master's degree increases one's likelihood of promotion, serving in an operational billet and completing career milestones are just as important in career advancement. Customarily, the Navy focuses on specific skill sets and encourages the rapid promotion of officers who perform well in actually utilizing these skills. To obtain a critical skill set, officers must

attend a GEP, which removes the officer from an operational billet. In some cases, officers obtain skill sets that are not particularly critical to the Navy. Thus, the officer's opportunities for promotion may be adversely affected. Various communities in the Navy place heavy emphasis on promoting officers with operational experience. As observed by Booker (2010), an officer's performance in a competitive job is the primary indicator of success, and serving in a difficult billet can significantly increase an officer's probability of promotion.

Another possible disadvantage of a fully-funded program is the non-observed evaluations or fitness reports an officer receives while attending graduate school. Attending NPS is a sort of "sabbatical" for officers, where they are free from operational job responsibilities and able to "recharge their batteries." Nevertheless, officers do trade time in classes for the added experience, knowledge, and competitive advantage that would be gained by remaining on the job. For officers in pay grade O-4, this can be an even bigger risk. Officers who report to NPS at this point in their career would normally be in-zone for promotion to pay grade O-5 within one to two years after graduation. These officers may only have one or two fitness reports and would be competing against peers who have more than four years of operational fitness reports.

4. Partially-Funded GEP, such as DL, can offer a Substantial Return on the Navy's Investment

According to the Office of Institutional Research at NPS, since the year 2000, 880 Navy officers have obtained a Master's degree through DL. DL is one of the major changes to have occurred in the availability, approach, and delivery of graduate education since the Navy's GEP policy was last revised. Current GED policy does not even address DL (Department of the Navy, 1991). The primary benefit for officers participating in GEP, whether partially-funded or fully-funded, is to obtain a Master's degree that will assist both their Navy career and their post-Navy employability. DL increases the opportunity for officers to receive graduate-level education, which ultimately benefits the Navy.

As we enter the age of financial austerity, the Navy faces numerous challenges in providing graduate education to officers. Partially-funded programs, such as DL, allow officers to pursue graduate education while also fulfilling their operational duties. These officers typically devote their off-duty hours to completing school assignments and attending online classes. This personal dedication to completing degree requirements somewhat independently allows the officers to work simultaneously at their Navy job. On the other hand, DL could possibly increase the risk of poor performance on the job due to the “moonlighting” effect (Conway & Kimmel, 1998), by reducing off-duty downtime for rest and relaxation.

5. Officer Utilization Requires Careful Monitoring and Management

In practice, the Navy does not detail officers to billets solely on the basis of filling SSP codes. More often, the needs of the Navy and an officer’s rotation timing play a significant role in assigning officers to billets. Although officers who receive funded graduate education are required to complete at least one utilization tour within two tours after graduation, the requirement is often waived (Department of the Navy, 1991). Officers who participate in a funded GEP should expect to serve in a billet that uses the education. The simple fact is that the Navy prefers to fill a billet rather than leave it vacant while waiting for an officer with a matching SSP code. Such flexibility allows the Navy to satisfy immediate operational needs and assist officers in meeting their career milestones.

Various communities throughout the Navy differ in the way they manage and execute their GEP. The program managers are responsible for managing and executing their respective programs within the Navy. Community managers tend to be more interested in supporting CNO staffing initiatives and strategic-level options. As seen in Table 1 (Chapter II), each community manages its own utilization of officers with fully-funded education. Available data show that the Restricted Line [RL] staff officer category tends to have the highest utilization rate

(and DoD compliance) at 86 percent. Navy-wide, from 2008 through 2011, utilization rate was roughly 73 percent.

6. Relatively Low and Declining Utilization Rates are Likely due to the Payback-tour Waiver Process

As discussed often in the present study, participating in Navy-funded GEP can be quite beneficial to officers within both the Navy and the civilian job market upon retirement. Additionally, numerous officers are obtaining a waiver that releases them from completing the otherwise-required payback tour (Department of the Navy, 1991). Many of these waivers are granted due to the officer's conflicting career milestones. As instructed in MILPERSMAN 1301/900, officers receive waivers to this policy so not to "preclude key operational tours essential to warfare qualifications" (MILPERSMAN 1301/900, 2005). Apparently, the precise effect of the waiver process on utilization rates is not documented. The process itself is largely handled informally, so the extent of its influence on utilization is speculative.

C. RECOMMENDATIONS

The following two recommendations are based on an evaluation of GEP and its management for the coming years.

1. Modify the Blanket Service Obligation that is applied Equally to both Partially and Fully-Funded GEPs

The Navy should seek to develop an equitable service obligation that would benefit both the individual officer and the Navy alike, based more specifically on GEP opportunity costs to the Navy. Officers who participate in fully-funded and partially-funded GEP have a similar service obligation. In return for a Navy-funded GEP, officers are required to serve a period of service three-times the length of their education through the first year and an additional month of service for each additional month of education (Department of the Navy, 1991). Yet, officers participating in partially-funded GEP spend significantly less time out of operational work requirements than do their counterparts who are

enrolled in residence programs. A reduction in the service obligation for partially-funded GEP would likely increase the number of officers who are willing to participate in such programs and eventually increase the number of officers with an advanced degree. Indeed, for many people across the nation, DL has surpassed the traditional classroom setting as the preferred method of instruction (U.S. Department of Education, 2011). The Navy and the officer corps have also embraced this phenomenon. For example, the NPS EMBA DL Degree Program allows officers to participate from their current duty stations while also conducting their normal military duties. Again, officers who participate in the DL program, have the same service obligation as do those who participate in a fully-funded program. From an equity perspective, the service obligation for officers who complete a partially-funded program should be less than that for officers who graduate from fully-funded programs.

2. Assign Officers to Subspecialty-coded Billets prior to being Detailed to Fully-funded GEP

The Navy should explore assigning officers to specific payback billets at the time they report to graduate school. This could possibly increase the utilization rate. Further, since the waiver process is an administrative function between detailers and placement, it needs to be monitored by other stakeholders so that it does not become a “rubber stamp.” Individual stakeholders may have conflicting interests, since the mission is detailing to the needs of the Navy, and the assignment priority is to fill operational units first. Engaging more stakeholders in the waiver process could help to increase utilization rates and reduce the need for officers to serve more than one tour in a validated SSP position.

D. FURTHER RESEARCH

The Navy should continue to examine ways to improve the execution and management of GEP. Additional research of the Navy’s GEP could be focus on the following areas:

- The effects on promotion and retention of participating in a partially-funded versus fully-funded GEP. This would help the Navy to calculate the practicality of each GEP, and then decide whether graduate education is a viable investment in comparison with other investments.
- The impact of providing “utilization tour” waivers to officers who participate in a fully-funded program.
- The promotion and retention experiences of officers who have attended NPS over the past twenty years through both resident and DL programs. This would seek to determine the Return on Investment (ROI) associated with fully-funded versus partially-funded programs.

The Navy is in a position to grow in its capabilities by capitalizing on the educational experiences of its officers. By focusing on efforts to effectively manage graduate education and make it an essential part of an officer’s development, the Navy would be able to better meet the challenges of tomorrow.

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APPENDIX A. APC REQUIREMENT AND SSP CODES

Title	APC	P-code	Degree
The Graduate School of Operational & Information Sciences			
Information Systems & Operations	334	6100P	MS Information Systems &
Computing Technology (DL)	325	None	Master of Computing Technology
Human Systems Integration (DL)	345	None	Master of Human Systems Integration
Operations Analysis	325	3211P/I	MS Operations Research
		TBD	MS Applied Science (Operations
		3211D	Ph.D. Operations Research
Joint Operational Logistics	325	3212P	MS Operations Research
			Ph.D. Operations Research
Human Systems Integration	335	4600P	MS Human Systems Integration
Master of Systems Analysis - MSA (DL)	335	TBD (3210P)	MSA Master of Systems Analysis
Joint C4I Systems	334	6204P/I	MS Systems Technology (C3)
Computer Science	325	6203P/I	MS Computer Science
		6203D	Ph.D. Computer Science
Software Engineering	325	None	MS Software Engineering
		None	Ph.D. Software Engineering
Software Engineering (DL)	325	None	MS Software Engineering
			Ph.D. Software Engineering
Information Systems & Technology	325	6201P	MS Information Technology Mgmt
376 - Computer Science (DL)	325	6203P	MS Computer Science
Identity Management and Cyber Security	344	None	MA Identity Management and Cyber
Identity Management and Cyber Security	344	None	MA Identity Management and Cyber
Cost Estimating and Analysis (DL)	335	None	MS Cost Estimating and Analysis
Modeling, Virtual Environments & Simulation	325	6202P	MS Modeling, Virtual Environments & Simulation
		6202P	Ph.D. Modeling, Virtual Environments
Information Sciences		6201D	Ph.D. Information Sciences
Remote Sensing	234		MS Remote Sensing Intelligence
Information Warfare	324	6205P	MS Information Warfare Systems
Electronic Warfare Systems Int'l	324	None	MS Electronic Warfare Systems
Joint Information Operations	365	None	MS Information Operations
Special Ops and Irregular Warfare	365	2500P	MS Defense Analysis
The Graduate School of Engineering & Applied Sciences			
Systems Engineering (DL)	N/A	None	MS Systems Engineering
	N/A	None	MS Engineering Systems
	N/A	None	MS Systems Engineering
		None	Ph.D. Systems Engineering
Space Systems Operations (DL)	324	6206G	MS Space Systems Operations
Space Systems Operations (International)	324	None	MS Space Systems Operations
Space Systems Operations	324	6206P	MS Space Systems Operations
Meteorology	323	None	MS Meteorology
		6403D	Ph.D. Meteorology
METOC	323	6401P	MS Joint Meteorology & Physical Oceanography
Operational Oceanography	323	6402P	MS Physical Oceanography

Title	APC	P-code	Degree
The Graduate School of Engineering & Applied Sciences (cont)			
Applied Mathematics	324	4100P	MS Applied Mathematics
		4100D	Ph.D. Applied Mathematics
Oceanography	323	None	MS Physical Oceanography
		6402D	Ph.D. Physical Oceanography
Undersea Warfare	323	6301P	MS Engineering Acoustics
		6301P	MS Mechanical Engineering
		6301P	MS Applied Mathematics
		6301P	MS Engineering Science
		6301P	MS Electrical Engineering
		6301P	MS Physical Oceanography
		6301P	MS Applied Science (Physical
		6301P	MS Applied Science (Acoustics)
		6301P	MS Applied Science (Operations
		6301P	MS Applied Science (Signal
		6301P	Ph.D. Engineering Acoustics
Undersea Warfare (International)	323	N/A	MS Physical Oceanography
		N/A	MS Electrical Engineering
		N/A	MS Engineering Acoustics
		N/A	MS Engineering Science (Electrical Engineering)
Combat Systems Science & Technology	323	5701/02/04 P/I	MS Applied Physics
		5703P/I	MS Physics
		N/A	MS Combat Systems Technology
		5704P/I	MS Engineering Acoustics
		5703D	Ph.D. Physics
		5701/02/04D	Ph.D. Applied Physics
		5704D	Ph.D. Engineering Acoustics
Underwater Acoustic Systems (DL)	323	N/A	MS Engineering Acoustics or Masters
Naval/Mechanical Engineering	323	5601P/I	MS Mechanical Engineering
		5000P/I	MS Engineering Science
		5602/P	MS Mechanical Engineering
		5601/02N	Mechanical Engineer
		5601D	Ph.D. Mechanical Engineering
Reactors/ Mechanical Engineering (DL)	121	5000P	MS Engineering Science (ME)
Mechanical Eng for Nuclear Trained	323		MS Engineering Science (Mechanical
Systems Engineering	323	5800	MS Systems Engineering
			MS Engineering Systems
Systems Engineering, Ph.D.		None	Ph.D. Systems Engineering
Electronic Systems Engineering	323	5300 P	MS Electrical Engineering (MSEE)
		None	MS Engineering Science (EE)
		5300N	Electrical Engineer
		5300D	Ph.D. Electrical Engineering
Space Systems Engineering	323	5500P/D/N	MS Astronautical Engineering
			MS Mechanical Engineering

Title	APC	P-code	Degree
The Graduate School of Engineering & Applied Sciences (cont)			
			MS Engineering Science
			MS Electrical Engineering
			MS Computer Science
			MS Physics
			MS Applied Physics
			Astronautical Engineer
			Ph.D. Astronautical Engineering
			Ph.D. Electrical Engineering
			Ph.D. Physics
Electronic Systems Engineering (DL)	323	None	MSEE
			MSES(Ee)
			MEng(Ee)
			MS Engineering Science (EE)
			Master of Engineering
Systems Engineering Management - PD21	N/A	None	MS Systems Engineering
			MS Product Development
			MS Systems Engineering
		None	Ph.D. Systems
			Engineering
The Graduate School of Business & Public Policy			
Executive Master of Business Admin. (DL)	245	3100P	EMBA
Civilian Executive Master of Business Admin. (DL)	245	N/A	EMBA
Executive Management	245	None	Master of Executive Management
Defense Business Management	345	None	MBA
Transportation Management	345	3122P	MBA
Acquisition & Contract Management	345	1306P	MBA
Systems Acquisition Management	345	None	MBA
Defense Systems Analysis	345	None	MS Management
Defense Systems Management	345	None	MBA (International students)
Supply Chain Management	345	1302P	MBA
Resource Planning and Management for	345	None	MBA (International students)
Material Logistics Support	345	3121P	MBA
Contract Management (DL)	355	None	MS Contract Management
Program Management (DL)	335	None	MS Program Management
Financial Management	345	3110P	MBA
Manpower Systems Analysis	345	3130P	MS Management
Information System Management	345	1309P	MBA
The School of International Graduate Studies			
Middle East, South Asia, & Sub-Saharan	265	2101P	MA Security Studies (Middle East,
Far East, Southeast Asia and the Pacific	265	2102P	MA Security Studies (Far East,
Western Hemisphere	265	2103P	MA Security Studies (Western
Europe and Eurasia	265	2104P	MA Security Studies (Europe and
Civil-Military Relations	265		MA Security Studies (Civil-Military

Title	APC	P-code	Degree
The School of International Graduate Studies (cont)			
Stabilization and Reconstruction	265		MA Security Studies (Stabilization and
Defense Decision- Making and Planning	265		MA Security Studies (Defense-Making
Homeland Security and Defense (Military)	265	2600P	MA Security Studies (Homeland Security and Defense)
Homeland Defense and Security (Civilian)	TBD	2600P	MA Security Studies (Homeland Security and Defense)
Combating Terrorism: Policy and Strategy	265		MA Security Studies (Counter-
Security Studies		2000D	Ph.D. Security Studies
Cyber Systems and Operation Program			
Cyber Systems and Operations	344		Master of Science in Cyber Systems and Operations
System Engineering Analysis Program			
Systems Engineering Analysis	334	6500P	MS Systems Engineering- Analysis
		None	Ph.D. Systems Engineering
Certificate Curricula (Taught Web-Based Except 211, 212, 213, 222, 258, 260, 290, 291)			
Naval Nuclear Power School Certificate	N/A		Certificate
Stability, Security and Development in	365	N/A	Certificate
Advanced Acquisition Program	N/A	N/A	DAWIA Level III Certification
Acquisition Management DL Program	N/A	N/A	Certificate
Army Cost Management Certificate	N/A	N/A	Certificate
International Defense Planning Certificate	365	N/A	Certificate
Cyber Security Fundamentals	325	N/A	Certificate
Cyber Security Defense	325	N/A	Certificate
Cyber Security Adversarial Techniques	325	N/A	Certificate
Human Systems Integration	N/A	N/A	Certificate
Modeling and Simulation Management	323	N/A	Certificate
Information Systems Security Engineering	325	N/A	Certificate
Information Systems & Operations	N/A	N/A	Certificate
Information Systems Technology	N/A	N/A	Certificate
Space Systems Certificate Program	N/A	N/A	Certificate
ASW Certificate Program	234	N/A	Certificate
Software Engineering Certificate	N/A	N/A	Certificate
eFIST Fundamentals in Information	N/A	N/A	Certificate
Knowledge Superiority (KS) Academic	325	N/A	Certificate
Federal/DoD Identity Management	325	N/A	Certificate
Engineering Modeling & Simulation	334	N/A	Certificate
Mathematics of Secure Communications Certificate	N/A	N/A	Certificate
Systems Analysis Certificate	335	N/A	Certificate
Systems Engineering Certificate	N/A	N/A	Certificate
Scientific Computation Certificate	N/A	N/A	Certificate
Guidance Navigation & Control Systems	323	N/A	Certificate
Fault Tolerant Computing Certificate	323	N/A	Certificate

Title	APC	P-code	Degree
Reconfigurable Computing Certificate	323	N/A	Certificate
Digital Communications Certificate	323	N/A	Certificate
Cyber Warfare Certificate	323	N/A	Certificate
Cost Estimating and Analysis Certificate	335	N/A	Certificate
Signal Processing Certificate	323	N/A	Certificate
Electric Ship Power Certificate	323	N/A	Certificate
EW Engineer Certificate (Resident and DL)	323	N/A	Certificate
Journeyman EW Engineer Certificate	323	N/A	Certificate
Journeyman EW Engineer Certificate	324	N/A	Certificate
Network Engineering Certificate (Resident	323	N/A	Certificate
Cyber Systems Certificate	323	N/A	Certificate
(Resident and DL)			
Wireless Network Security Certificate	323	N/A	Certificate
(Resident and DL)			

Figure 6. APC Requirement and SSP Codes (From NPS website:http://www.nps.edu/Academics/Admissions/Registrar/AcademicCatalog/docs/catalogs/General%20Academic%20Catalog_March2012.pdf.)

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APPENDIX B. TABLE 1 TERMS AND DEFINITIONS

- **OUT OF ZONE NO UTILIZATION** - An officer who is outside the Navy window and has yet to complete a utilization tour.
- **IN ZONE NO UTILIZATION** - An officer who is inside the Navy window and the first assignment (first ashore tour) was not a utilization tour. If assigned to a utilization tour after the present assignment, the officer will be in Navy compliance.
- **IN ZONE SEPARATING** - An officer who is inside the Navy window and the first assignment (first ashore tour) was not a utilization tour. However, this officer has either a retirement or a resignation request submitted through the Force Management System (FORMAN).
- **OUT OF ZONE SEPARATING** - An officer outside the Navy window without a utilization tour with either a retirement or resignation request submitted through the Force Management System (FORMAN).
- **ONE UTILIZATION TOUR OUT OF ZONE** - An officer who completed one utilization tour but it was outside the Navy window.
- **MULTI UTILIZATION TOURS OUT OF ZONE** - An officer who completed two or more utilization tours, but the initial tour was outside the Navy window.
- **ONE UTILIZATION TOUR IN ZONE** - An officer who has completed only one utilization tour, and that tour was within the Navy window.
- **MULTI UTILIZATION TOURS IN ZONE** - An officer who has completed two or more utilization tours within the Navy window.
- **DOD TOTAL COMPLIANCE OPPORTUNITY** - Includes all officers who have completed a utilization tour, plus those officers with no utilization tour but have either a retirement or resignation request in the Force Management System (FORMAN). Since officers have their entire career to complete a payback tour, the only time an officer is out of compliance is when the officer separated without a payback tour.
- **NAVY TOTAL COMPLIANCE OPPORTUNITY** - Includes all officers completing some form of payback tour and those officers who have not used their subspecialty and are outside the Navy payback window. Officers in the IN ZONE NO UTILIZATION column do not count against this total comply opportunity since these officers still have a chance to utilize their subspecialty with a payback tour.
- **PERCENT DOD COMPLIANCE** - All officers completing a utilization tour, whether in the Navy payback window or not, divided by the DOD TOTAL COMPLIANCE OPPORTUNITY.
- **PERCENT NAVY COMPLIANCE** - All officers completing a utilization tour in zone divided by NAVY TOTAL COMPLIANCE OPPORTUNITY.

Figure 7. Table 1 Terms and Definitions (From: Source Navy Personnel Command, PERS-45E)

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